BREAK THROUGH

FROM INNOVATION TO IMPACT

THE GLOBAL LEADERSHIP FOUNDATION: HELPING LEADERS GOVERN

THE CIRCULAR ECONOMY FROM A LINEAR TO A CIRCULAR ECONOMY

THE CIRCULAR ECONOMY AS THE NEW NORMAL

PAUL POLMAN: A VISION FOR UNILEVER. "SMALL ACTIONS, BIG DIFFERENCE"

A LEADERSHIP PRESCRIPTION FOR HEALTHCARE

BUILDING THE FUTURE OF HEALTH: A MAN-MADE BLUE ZONE IN THE NORTHERN NETHERLANDS

VAN OORD: DUTCH MARINE INGENUITY

JAN PETER BALKENENDE: THE RESPONSIBLE SOCIETY

VOLUME 2

THE OWLS FOUNDATION

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ABOUT: **LEADERSHIP, COURAGE AND ACTING TOGETHER**

THE OWLS FOUNDATION

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4190 CA
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Netherlands

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Designed by Martin Colyer
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Henk van den Breemen
Chair

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PREFACE

Given the enthusiastic reception of our book *Breakthrough: From Innovation to Impact*, it was decided to make it into a series. We are proud to present the second volume. The Owls research team once again provides inspiring examples of leadership, in this particular case about leadership in innovation and breakthrough processes.

These new studies tell you how brilliant ideas and inventions can be transformed into innovations and breakthroughs which make a real impact, and they analyse why others fail.

We seek to develop a way to help organisations to understand complex processes in a clear and simple way, thus helping leaders to deal with the winding path that transforms innovations into impact.

The development of the The Owls Breakthrough method © was strongly supported by the fact that each of these case studies was approached in the same way and analysed with the same generic factors, by doing so acquiring the 'DNA' of the innovation and breakthrough processes. The method has deep practical roots and its development was formulated in close cooperation with business people, policymakers and military experts.

INTRODUCTION BY HENK VAN DEN BREEMEN

BREAKTHROUGH: FROM INNOVATION TO IMPACT. WHY, WHAT, HOW, WHEN & WHO?

WHY The society we live in today is the result of many past innovations, whether a new idea, method or product, such as the internet. In our world there is a great interdependency: no country, no organisation and no institution can operate and succeed on its own.

As a society we will continue to need new breakthroughs and innovations more than ever to achieve a sustainable world. However, no innovation will come about on its own either. Crossover activities between different disciplines are rapidly increasing, such as in healthcare and logistics, sectors which are both seeking to overcome similar challenges of delivery and efficiency.

The Owls motto is: Act together, show leadership and courage

Innovations and breakthroughs should be part of a continual discussion for improvement to create a context and awareness in which innovations are welcomed and stimulated. They should be on the agenda of schools, institutions, businesses, politicians and governments.

WHAT The Owls Foundation has researched many[1] innovations and breakthroughs across an exceptionally wide range of areas in order to understand the mechanisms that underpin major milestones of innovation and the way in which they succeeded or failed in making an impact. We collaborated with our international network of leaders, entrepreneurs and scholars who were actually involved in the breakthrough and innovation process we described. They have valuable lessons from their experiences that we look to pass on to others. They were again generous with their time and thought hard to reflect on their experiences in terms of the generic factors that we identified.

HOW – PROCESS AND GENERIC FACTORS If you want to change your environment and develop one that stimulates innovation, then you need to understand the underlying structure of an innovation and breakthrough process and make it tangible. Assuming that breakthroughs and innovations are always related to some form of a process, The Owls Project conducted research. We chose to describe and examine each innovation or breakthrough process stage by stage to success or failure. We assumed that these process stages were generic and could be labelled parallel to the stages of the flow of a normal production/implementation process. We defined a 'process' as '*a series of [planned] actions and/or operations directed towards a particular result in a certain sequence and time frame*'[2].

On top of that we labelled the process steps as generic factors: '*factors that have a certain meaning and a common character because they are used regularly and have a function or role, regardless of the nature, place or moment*'[3].

We identified nine factors of which six are process-related and three are generic by nature. We grouped them as follows:

The creative factors:	■ Idea and vision.
	■ Innovation and breakthrough.
The conceptual factor:	■ Concept.
The operational factors:	■ Mission and strategy.
	■ Planning and execution.
	■ Iterative process.
The enabling factors	■ Human factors.
	■ Environmental factors and capabilities.
	■ The window of opportunity.

Innovation and breakthrough processes are often linked. Most innovations which became a success did so because they were coupled with a successful production/implementation process. That is one of the reasons why it is not always the most advanced technology or invention that conquers the market or beats the competition.

RESEARCH RESULTS OF THE OWLS PROJECT The results of the research are again fascinating. The generic factors are common, recognisable, instrumental and applicable. They are present in each breakthrough or innovation within the contexts of business and institutions, from small to large in size, right up to governments operating on an international scale. If we dig deeper to study and understand these factors, we are in a better position to transfer knowledge and experience and to develop cooperation and crossover activities to make innovations internationally successful. Our different case studies, whether big or small, provide a rich bank of data to contribute to the goals of this project and to stimulate an ongoing discussion on innovations and breakthroughs, so that they enter the culture of governments, companies, universities, schools and other institutions that can translate these values and principles into reality.

GENERIC FACTORS AND THE OWLS PROJECT [4]

- The Owls Project has led to an important insight. Through research on generic factors, insight is acquired in the 'DNA' of innovations and breakthrough processes.
- This insight is universal and equal for all target groups (although the communication message may be different for each target group).
- The conclusion of the research is that innovations and breakthrough processes can be better recognised, understood and stimulated.
- Generic factors play an important role in achieving the same language and perception, which is important for international and multidisciplinary cooperation.
- Generic factors can be instrumental for an effective translation into a stimulating environment in which innovations and breakthrough processes are welcomed and put into practice, thus contributing to a sustainable world.

The generic factors not only play a role as an *analytical tool* but can also be used as *steering controls* in the storage and transfer of experience. They point to the great value of being able to work together in a multi-disciplinary way and internationally, and show us how to create an environment that stimulates innovation and from which the future will benefit.

This success is not a given, because even though many institutions value innovation they do not necessarily prioritise the development of a strategy to build innovation into their internal processes.

A 2013 study by Accenture[5] offered a revealing picture. In a survey of 519 executives in British, French and American firms with annual revenues of more than $100 million, 93 per cent admitted that the long-term success of their business depended on innovation, yet only 18 per cent of them had prioritised the development of a strategy for innovation. These outcomes are still relevant, despite the fact that the survey was carried out some years ago. Every company should develop a strategy for the development, acquisition and implementation of innovation, for innovations and breakthroughs have to do with mindset and, connected to that, impact.

BREAKTHROUGH VOL. 2: FOCUS ON LEADERSHIP In this volume, we have selected cases with a special focus on human leadership and the generic factor concept, and we explain how it was dealt with in a variety of different environments.

1 The **Global Leadership Foundation**. This case study shows how international leadership can create a highly-qualified network with a very practical, hands-on mentality providing the right profile for important international governmental advice.

2 The twin chapter on the **circular economy** is a challenging one. To take on such a target is an ambitious task which is all about creating an impact on society. Education and science will play a key role. One of the challenges is to stay pragmatic with both feet on the ground. The two chapters are good examples of how to do this. They show the importance of people, leadership and the environment so that movement is not only top-down but also bottom-up.

3 The **Unilever** case study is an example of exceptional leadership which focuses on making innovations really happen. Enabling leadership, showing courage and a good balance of planning and ownership, is the key for success. The Unilever study also shows how important a well-worked-out concept in goals and sub-goals is in addition to a supportive environment inside and outside the organisation. It needs guts to deal with the contradictions of a competitive environment and the demands of shareholders.

4 The **healthcare** case study is an exclusive abstract of the excellent book *Rescuing Healthcare: A Leadership Prescription to Make Healthcare What We All Want It to Be, by Antony Bell and Denis A. Cortese, MD (2017)*. The chapter highlights examples of a number of medical organisations in the USA and the Netherlands whose leaders exemplify the kind of daring and innovative leadership advocated in this chapter.

5 **'Building the Future of Health'** is the result of our *Write Your Own Chapter* project, which offers organisations the chance to test the innovative mindset, environment and capability of their organisation or project based on The Owls Breakthrough Method. It helped the UMCG in Groningen gain insight into unique aspects of their work such as the importance of a proper conceptual approach — with precise targets and goals — to achieve a really innovative impact. It also shows the importance of a balance between ideas, goals and execution.

6 The **Van Oord** case study is a good example of how innovation can be driven by real entrepreneurship — a family-owned firm faced with the challenge of a tough market setting itself ambitious targets with considerable risks attached and seeking innovative ways to achieve them. The Van Oord case is also interesting because not only is technical innovation necessary — so is leadership at every level. The chapter explains the type of leadership necessary to run a big family company and to plan and carry out a proper succession policy.

7 **'Jan Peter Balkenende: The Responsible Society'** is about creating and stimulating a positive mindset for innovations and breakthroughs by political and governmental leadership, and the need for long-term planning. This is a key for success, easy to say but difficult to achieve.

Each chapter holds valuable lessons. This knowledge can be beneficial for multi-disciplinary and crossover activities which are of great importance in today's globalised world. It is very helpful if you are able to see and understand the mechanisms involved in the different activities we describe. For example, health and logistics are both adapting to consumer-driven markets (concept, planning and execution). The environment may be very important for the success or failure of a process. Different countries have different cultures. Society and governments can be decisive stumbling blocks, and understanding their role requires attention beforehand. That also applies to the position of people related to a company, such as stakeholders and shareholders.

As mentioned before, the importance of the concept generic factor also stands out from the cases described in this volume. An accurate concept is a must [see Annex – The Owls Breakthrough Concept]. Further on in the Annex, specific attention is paid to this under the heading The Owls Breakthrough Concept which covers its theoretical explanation. A good example of the practice of the concept is the Unilever Sustainable Living Plan [see chapter 3]. It shows how vital the concept was in formulating the right basis for the company's masterplan to achieve the goals and sub-goals it had set, thus creating the direction envisaged for impact.

WHEN AND WHO The masterplan based on the concept will give the input for the mission, strategy, planning and execution, including the iterative process, thus providing the context in which it becomes clear who is doing what and when [see Annex 2 – The Owls Breakthrough Concept].

QUALITATIVE ANALYSIS The Breakthrough Method© of The Owls Foundation shows in the analyses of the case studies to what extent innovations and breakthrough processes are consciously experienced by the organisation (awareness) and to what extent these have been translated into its daily business process and how they contribute to the development of results (impact).

We elaborate extensively on the research method and results of the qualitative analysis in the Annex on Qualitative Analysis.

CHAPTER 1

The Global Leadership Foundation:

Helping Leaders Govern

INTERVIEWS WITH PRESIDENT FW DE KLERK, SIR ROBERT FULTON AND SIR JOHN SHEPHERD.

Written and edited by Robert Low. Interviews by The Owls Team.

The key factors in this case study are vision, leadership, concept, mission, planning and execution, window of opportunity, human and environmental factors

QUALITATIVE ANALYSIS: PAGE 185

After succeeding against all the odds in dismantling South Africa's apartheid system and establishing a stable democracy, the country's former President and Nobel Peace Prize laureate, FW de Klerk, wanted to use his experience to help other countries, particularly in the developing world, to improve their governance, bolster their democratic institutions and achieve peaceful resolutions of internal and external conflicts. To do so, he founded the Global Leadership Foundation, which uses the expertise of former political leaders like himself to work with current regimes to seek solutions to crises and conflicts, and promote good governance, tailoring their approach to local realities and choosing not to publicise their own activities.

INTRODUCTION

In the age of the twenty-four-hour news cycle and the relentless tide of social media, it is refreshing to hear of an organisation involving some of the world's most distinguished political figures that carries out delicate and important work promoting good governance and seeking solutions to political difficulties throughout the world, yet which values and favours trust and discretion before publicity.

Such a body is the Global Leadership Foundation (GLF), which since its establishment in 2004 has sought to improve political leadership and governance by confidentially using the experience of former leaders with strong personal records in achieving reform and innovation during their own political careers. The aim is for them to share their knowledge and ideas behind the scenes with politicians currently in power who are faced with situations which they may not have the experience and benefit of good local advice to tackle and solve.


GLF CHAIRMAN
FW DE KLERK

The driving force behind the GLF is its founder-chairman FW de Klerk, the former President of South Africa, although he modestly disclaims credit for thinking up the idea in the first place. Since 2004 he has assembled an impressive team of past world leaders who can be called upon to help less experienced present-day leaders.

To give an idea of the range of experience the GLF can draw on, the Vice-Chairman is Joe Clark, former Prime Minister of Canada, while its Members include Carl Bildt, former Prime Minister of Sweden, Lakhdar Brahmi, the former Algerian Foreign Minister who was UN special envoy to Syria 2012-14, Mohamed ElBaradei, Egyptian former Director General of the International Atomic Energy Agency, Amara Essy, former Secretary General of the Organisation of African Unity, Enrique Iglesias, former Foreign Minister of Uruguay, José Ramos-Horta, former Prime Minister and President of East Timor, and Kevin Rudd, former Foreign Minister and Prime Minister of Australia.

But even to single out these names is invidious, for all 40 Members are former politicians and diplomats of the greatest distinction. The GLF is supervised by a nine-person board headed by FW de Klerk, while day-to-day operations are run by a small full-time team headed by its Chief Executive Officer, Sir Robert Fulton, former Commandant General of Britain's Royal Marines, operating out of offices in a discreet block in Mayfair, central London.

GLF's area of operations is wide. Since its foundation it has worked on projects in the following areas: regional security, security sector modernisation, dealing with a terrorist organisation and negotiating the release of hostages, negotiating with armed resistance movements, political reconciliation and implementation of international agreements, elections, economic reform, trade, resource management, development of democratic institutions, humanitarian aid, governance and the transition from authoritarian rule.

The GLF is an excellent example of innovation in global diplomacy because nothing like it existed before it was set up. FW de Klerk was the ideal man to establish it, as the architect of one of the most daring and successful political revolutions of the twentieth century. After a busy career running his own law practice, he entered politics as a member of parliament for the ruling National Party, and had a long career as a minister in successive South African governments during the apartheid era.

FW de Klerk wanted to use his experience to help other countries improve their governance and bolster their democratic institutions.

He was regarded as a centrist and pragmatist and established a good reputation as an effective minister in various portfolios. He was elected leader of the National Party in 1989 and became President a few months later after the resignation of P.W. Botha. Nothing, however, had prepared South Africa for what was to come.

Shortly after he assumed office, he astonished his countrymen and the wider world by announcing the swift dismantling of apartheid, releasing Nelson Mandela from his long imprisonment and paving the way for democratic elections and the establishment of black majority rule, all in the space of a few turbulent years in the early 1990s. For his historic role in effecting peaceful change in a country where widespread bloodshed had been feared before apartheid would be overthrown, Mr De Klerk was awarded the Nobel Peace Prize in 1993, jointly with his old adversary and then colleague Nelson Mandela.

When Mandela succeeded him as President after the historic election of 1994, De Klerk continued in government as executive Deputy President in the Government of National Unity. The National Party, of which he remained leader, left the coalition government in 1996, and De Klerk himself left the government in which he had served for eighteen years.

The following year he decided to retire from national politics altogether. But he was still only sixty-one, relatively young for a politician, with an enormous amount still to contribute to political life, and the experience of having supervised one of the most unexpected and successful political revolutions of the twentieth century, a transition that was largely peaceful, against all expectations.

VISION

In an interview with the Owls team, Mr De Klerk explained how he set about achieving his next political goal: the Global Leadership Foundation.

"It wasn't actually my idea to start the Global Leadership Foundation. When I retired from politics in 1997 I started in South Africa the FW de Klerk Foundation, which is focused on promoting solution-orientated dialogue within South Africa and on upholding the constitution which we negotiated and which is a very good constitution. But I was 61 when I retired from party politics, young and energetic.

"I had a friend, a South African, who was in a very senior position working for BP. He came to me, round about 1999. His job was to deal with governments wherever new oil was discovered. In his interaction with the presidents or leaders of faraway countries, some quite undemocratic, some semi-democratic, quite often even if they wanted to do the right thing, they didn't know what the right thing was. They didn't have good, strong civil services around them. They were quite often surrounded by corrupt officials. They burned their fingers sometimes by employing professional advisors who actually lined their pockets from the advice they were giving instead of giving honest and objective advice. He planted the idea with me, that there is a need among leaders in the developing world to get advice on burning issues, advice that they can really trust. And he gave me some seed money."

CONCEPT

"I started travelling a bit and talking to people in the leadership world of politics with whom I had developed good relationships during my presidency. I had discussions, for instance, with the former British Foreign Secretary, Douglas Hurd, with Hans van den Broek, the former Dutch Foreign Minister and European Commissioner for External Relations, with Anibal Cavaco Silva, the former Prime Minister of Portugal who subsequently became President of Portugal.

"We agreed on that day that the niche of such an organisation would be: to give confidential, discreet advice... differently from other former leaders who offer advice."

"In the end I used some of the seed money to bring together a group for a discussion on the viability of a group who could fill this void, who could provide this trustworthy, objective, honest and good advice arising from good experience. It took place at a small hotel outside London. Present were Douglas Hurd, Lynda Chalker, Hans van den Broek, Chet (Chester) Crocker, former US Assistant Secretary of State for African Affairs, and Lech Walesa, former leader of Solidarity, subsequently President of Poland and Nobel Peace laureate in 1983.

"We kicked the ball around for a whole day saying: can it work? And we came to the conclusion: it might work. And they committed to becoming part of such an organisation if I established it.

STRATEGY

"We agreed on that day that the niche of such an organisation would be: to give confidential, discreet advice. Differently from other former leaders who offer advice, who advise, who arrive in countries with two TV teams and say: you need help and I am here to help you, we agreed that we would be discreet and offer them confidentiality. It was the wisest decision we took. Because if you arrive full of media around you then it is actually somewhat insulting to the leader. He is put in a position where he is publicly told: 'You are not governing well and we have all the wisdom to help you.' So right from the beginning our vision included discretion, and confidentiality.

"I then proceeded to register the Global Leadership Foundation. We decided to register it in Switzerland to underline the fact that we would be neutral and objective and not represent any specific interests.

"When it came to the financing of the venture, that wasn't decided right at the beginning but it developed in the first year or so. We realised that if we got very large donations from one or two sources, we could be accused of representing the interests of such a multinational company or corporation. We decided that it would be better to have quite a big number of donors giving smaller amounts, amounts with regards to which nobody would accuse us of being on the payroll of such companies and doing their bidding. We decided to set the upper limit at 10 per cent of our Annual Expenditure; in practice it has turned out that the largest donation we receive is £70,000 a year from any one source. This, when we talk to leaders that we advise, impresses them.

"We regard them [our donors] as members of our family and not only givers of money but also people with experience, insights and contacts."

"A third aspect at the start of the construction of the Foundation was what we needed to do to make a success of this operation, and who could serve as advisors? Our decision was a consensus which grew right from the beginning: that we would only have as Members, as potential advisors forming part of teams giving advice, people who no longer held political office.

If they still held political office, they could be accused of representing the interests of the country in which they held office and promoting the foreign policy of a foreign country. So all my Members—and we now have 40—do not hold political office. If they re-enter politics they stop being a Member of the Foundation.

"Another aspect which was part of our consensus about how to construct a successful operation was that we are not in it for the money. We have each an agreement that, for those who would like to accept it, a small honorarium for actual days working on giving advice would be allowed. It is the equivalent of what a company director would get for attending a meeting but not of a big or a medium-sized company on the stock exchange.

Quite a number of them, when they get involved, do not ask for this. Some of them need to underpin their pensions and they do accept it. And of course we pay their expenses.

PLANNING AND EXECUTION

"So that was the road we went. It took us about five years to get it registered and before I could actually launch it. We launched it in 2004 with about a dozen Members, which has now grown to 40, and with a small Board. From the beginning we said, unlike other NGOs, we would run a tight ship. When we need to do a study of a country, we needn't employ experts full-time to do that, we contract it out. Therefore from the beginning we had a small staff. We started out with just a Secretary General, the former British ambassador and senior diplomat Sir John Shepherd, and one assistant. In 2007 he was succeeded by Sir Robin Christopher, another former British ambassador and senior diplomat.

"We thought later on that it was a big title for a small operation, and Robert Fulton is now called the Chief Executive Officer. The staff has only grown since 2004 to four full-time employees: a CEO, a Projects Director, now Amitav Banerji, a distinguished former Indian diplomat and more recently the Director of the Political Division of the Commonwealth Secretariat, two younger staff members and a part-time bookkeeper keeping our accounts, plus part-time fundraisers on contract. So it is really a tight ship."

One reason for the GLF to stay small was to ensure the personal involvement of the Members in its work, according to John Shepherd, because what GLF offers is their personal experience of top leadership. Senior politicians and leaders of international organisations are used to devolving a lot of work to their support staff. But if there were no support staff they would draw on their own experience.

"We would approach a country with serious problems and ask them, even before we go in, to consult and negotiate amongst themselves."

In the GLF's early years, fundraising was a major problem, as the fledgling organisation did not have that expertise, and nor did the Members. "We have learned that retired political leaders are not by nature fundraisers," said John Shepherd. "A lot of it fell on the shoulders of FW de Klerk, who has been from the start our most effective fundraiser." To galvanise the fundraising effort, GLF brought in a dynamic and resourceful consultant, Lucinda Groves, with an increasingly wide remit as a fundraising advisor to the Foundation. GLF set certain limits on where it will try to raise funds: it has chosen not to take money from governments of the five permanent members of the UN Security Council, so as not to be suspected of being influenced by them. But it has done so from smaller, traditionally neutral countries such as Switzerland and Ireland.

How does GLF go about finding suitable projects? "The post of our Projects Director is almost as important as the post of CEO in the sense that the one negative we've experienced throughout the development of the Global Leadership Foundation was that leaders don't take the initiative to get advice," said FW de Klerk. "They have to be convinced that they can benefit from good outside, neutral, objective and trustworthy advice. And to convince them, you need to get people near to the president of a country—to know about the Global Leadership Foundation and to advocate to his boss, the president of the country, or the prime minister, that he or she can only benefit from inviting the Foundation to send a team and to sit down with the president and some of his advisors and formulate some advice.

"So the Projects Director's main task is to develop projects, to get through, and to knock on the right door in countries which we identify on an annual basis in order to generate the invitation we need before we start actually advising such a government.

"Our biggest challenge is to get that invitation. The office constantly works at it. I constantly try to motivate our Members to help to develop projects. Some of them know their successors in the country from which they come, and that country needs advice. On four occasions, some of our Members have acted and taken initiatives to generate an invitation for us to come and advise that country.

"Most of my Members are present at our Annual Meeting. We also invite our donors to attend, and many of them do. We regard them as members of our family and not only givers of money but also people with experience, insights and contacts. We look at the world reasonably and ask ourselves: where are there countries which need advice? They are there in abundance. Almost all of them can benefit from good advice. But where are the countries which both need good advice and have leaders who might open themselves up to such good advice? And there we narrow it down to a number of priority countries. Then the CEO and the Projects Director, and at times our Members, start working on how to generate an invitation from such countries. To this day our greatest risk of failure is having all these good people, my Members, with all this experience, available to give advice, but we don't have clients to give advice to. In that sense we are like a company constantly looking for clients and buyers.

"When we give advice to a country, we don't draw up a master plan affecting each and every aspect of governance in that country. We are not geared for it, and that is not the type of advice which usually leaders need in countries which face serious problems. We focus on what initiatives they can take to change the negative direction in their country towards a more positive direction. Therefore in our advice we help them to prioritise, what they should do now and in the next six months, to bring about a better situation in their country.

"So we don't try to decide for a country what their whole monetary policy should be, what they should do in security, what they should do in education, and so on. Depending upon the situation in the country, we lift out of the myriad of problems that they have to deal with, those initiatives that, if they take them and if they are successful, will bring about a complete change of atmosphere. We will put the country on a better direction than where it is at the moment.

"I learned this lesson in South Africa. Our successful negotiations, between me and Mandela, and all the other parties that we brought in, was really made possible by two initiatives. As the leader of the governing party at that stage and the President of South Africa, on 2 February 1990 I announced an initiative which would remove any reasonable objection of the African National Congress to offer to sit down at the negotiation table. I did not lay down any preconditions. I removed any obstacles that could reasonably be offered to come and negotiate.

"Then Mandela took a fundamental initiative which was necessary, otherwise we could not have proceeded. He suspended what the ANC called their 'armed struggle'. And because of those two initiatives the atmosphere for successful negotiations was created and the platform for successful negotiations was laid down.

"So it is in this way that we would approach a country with serious problems: to ask them, even before we go in, to consult and negotiate amongst themselves. Then we go to that country and say what you really need to do immediately is this and this. And it will change the international attitude

HRH PRINCE EL HASSAN BIN TALAL OF JORDAN AND MICHAEL STAKOL

too, or help to improve the investment climate, or avoid the risk of civil war, in your country, depending on what the problem is in that particular country.

LEADERSHIP

"Because we give strictly confidential advice, we never want to claim the credit for anything which arises from our interaction with a leader. For us the definition of success is that we convince the leader of the steps he or she needs to take to make things better in the country—that the leader makes them his or her own and gets all the credit for it. So enabling leadership to manifest itself is our method, not us taking over and saying it is to our credit that things are getting better in that country. We build the competence of the leader and then leave it to him or her to execute and implement and announce it as his or her initiative."

GLF IN ACTION

Mr De Klerk cited two recent examples of GLF intervention that had helped to bring about a positive outcome to complicated, long-running political confrontations, although in accordance with the Foundation's emphasis on confidentiality he did not wish to name the countries concerned. "We haven't always been successful. But there have been some instances where we are very pleased and even proud that we have succeeded in convincing the leader to take the right decision, which has resulted in very good outcomes, in South America and Africa.

"We only advise governments. We don't advise political parties or opposition parties, and so on. At one stage of a very intricate and delicate negotiation, the negotiating teams which had been established came to South Africa. I had a two hour-session with them sharing with them our experience about negotiations in South Africa. I had that contact but the initiative came from the government in question.

"In another country we had contacts with the opposition leader but at the request of the president. The underlying problem is that they have a history of a civil war. Vast new oil and gas fields were discovered which are situated in the area where the leader of the opposition has his stronghold and his main constituency, and where they therefore now want a bigger share of the spoils of the oil and gas field. The government obviously wants it for the whole country. So that was the underlying problem, which is on the way to resolution."

GLF encountered many difficulties with its first projects, from which many lessons were learned. John Shepherd spent the first three years travelling the world to set up contacts and explore possible areas where GLF could help.

He visited existing and new contacts in foreign ministries in Europe, Asia, Africa and North America as well as international organisations: UN Peacekeeping, the UN Development Programme, the World Bank, the IMF, ASEAN, the African Union, the European Union and NGOs such as Human Rights Watch, Amnesty International, Transparency International, the Centre for Humanitarian Dialogue in Switzerland, the Red Cross and the International Crisis Group, whose then CEO Gareth Evans subsequently became a GLF Member. The ICG has proved particularly helpful over the years in providing research and information from around the world to point it in the direction of possible projects.


FW DE KLERK IN DISCUSSION WITH AMBASSADOR BARBARA BARRETT

GLF's very first project eventually failed to yield significant change but achieved some success and provided valuable lessons for the future. The initial contact came from a business contact of FW de Klerk. "Business supporters can be a very important source of projects because they very often operate in countries in difficulties. The chairman of the company may know the head of government and they have an angle on the problems that the head of government is facing," said John Shepherd. "It lasted ten years and at least a dozen visits before we decided that, although we had done a number of positive things, the leader's heart just wasn't in taking risks to improve governance. One positive outcome of GLF's presence was the passing of a new Mining Law, which has, said John Shepherd, "reduced the scope for fly-by-night mining companies to fleece the country.

It's a key GLF policy to have a wide range of Members from all parts of the world, of every language, colour and religion, so that the right people can be matched to the right project.

"But we learned a lot in the process about the nuts and bolts of running projects, including the importance of an item in the budget called 'in-country costs' because although we generally paid for our own travel costs, when we are in-country staying in the manner which the local head of government or head of state thinks is appropriate, we are very relieved when they are picking up the tab, and it is a sign of their commitment to us as well."

An early target was a large African country, plagued for decades by civil war. John Shepherd was promised a meeting with the then new President by the Ambassador to the UN in New York and flew to the capital. But when he arrived he found street fighting, and the President was dealing with another crisis, so the meeting never took place. "The lesson of that was: don't expect to move fast," said John Shepherd. Similarly in a strife-torn former Soviet republic, a promised meeting with the beleaguered President failed to materialise, killing off any hope of GLF help. However, a couple of years later GLF was able to advise the government on how to negotiate with the World Trade Organisation thanks to the work of its Member Mike Moore, a previous WTO Director-General.

In an impoverished African country, an IMF contact arranged for John Shepherd to get in touch with the Finance Minister, who had himself recently returned from a senior post at the IMF. The idea was to get the President to work with the opposition to unfreeze the budget, which was blocked for political reasons. The Finance Minister arranged for John Shepherd to have a private meeting with the President at which he agreed to a meeting with two opposition leaders outside the country to be chaired by FW de Klerk, with financial support from the World Bank. But less than a day before the scheduled meeting, the President pulled out, fearful that the opposition politicians would leak it, thereby undermining his authority. But the opposition did turn up for two days of useful talks and, said John Shepherd, "They behaved more responsibly afterwards."


GLF MEMBERS IN DISCUSSION 2016

For John Shepherd, this affair highlighted the issue of confidentiality. "We are invited by leaders. We don't go for opposition people who might want to unseat leaders, tempting though that sometimes is: think of Zimbabwe. We therefore have this idea of confidentiality as a sort of USP (Unique Selling Proposition) available to the leaders we advise. They can decide for themselves if they're not fussed. We always say that a weak leader could be weakened further by opposition exploitation of their need for further advice.

In most cases the leaders are very grateful for that confidentiality and we have seen how important it is in getting us involved. It doesn't mean that we are a secret society or secret organisation: we tell partner governments, we tell NGOs, we tell our funders, we tell international organisations.

"We certainly won't tell our funders on paper where we are operating but we will tell them orally at the Annual Meeting or in private meetings. It's putting things down on paper where you lose control of the information, and we try to avoid doing that. We tell the people whom we are advising that we are sharing our involvement with these other partners. We don't advertise our travel, we don't arrive with police escorts, but inevitably we meet other people in the countries that we go to so the circle who know about GLF involvement is never limited just to the leader, or almost never. It's not an absolute confidentiality."

The final example of GLF activity cited by John Shepherd was a project to improve governance and hold together a northern African country which was facing a series of interlocking crises. GLF was introduced to the country by its Member HRH Prince Hassan bin Talal of Jordan. John Shepherd accompanied him and Douglas Hurd to meet the President, using the opportunity provided by HRH Prince Hassan's engagement to speak at a conference in the capital.

John Shepherd reflected: "The President, though widely seen as a 'strong man', turned out to be too weak to stand in the way of the momentum behind the downward spiral dragging the country down, amid continuing disregard of the democratic constitution (on paper) and human rights.

"So we did not have success there but I think we made some impact by giving them suggestions on things that they ought to be doing, and some of the lessons were obviously learned. I felt a frisson of relief about three years later when I saw one of the documents that I had written, emerging as the initiative of one of the politicians who had become dissatisfied with his President and decided to take his own initiative. We had committed a team of about seven Members over three years, including the Chairman and Deputy Chairman, so it was a disappointing outcome. It was a major opportunity, but finally didn't lead to anything like success."

Although these early projects may not have had the successful outcomes the GLF had hoped for, valuable lessons were learned for the future. Four principles emerged as vital for future success: confidentiality, partnership, personal contacts, and creating trust. "Those are the four things we focus on now," said John Shepherd.

Many subsequent projects had more positive outcomes. Between 2007 and 2009, under GLF's new Secretary General Robin Christopher, a GLF team made several visits to Timor-Leste (East Timor), whose bloody struggle for independence from Indonesia made world headlines at the beginning of this century.

The first, at the invitation of President Jose Ramos-Horta, was to advise on the conduct of the country's first elections since gaining independence in 2002. The elections were carried out successfully, with a high turnout, and the country has operated on democratic principles ever since, despite a violent uprising in 2008, the year the GLF team returned to help the President of the new national parliament with parliamentary practice and procedure.

In 2009, the GLF returned to advise the office of the President on staffing and structure, and to review security sector modernisation. GLF also reviewed the country's economic coordination, which led to World Bank funding for a former official in the New Zealand Treasury to advise the finance ministry on budgetary processes, international aid coordination and a national development plan. GLF worked in collaboration with the United Nations Development Programme, the United Nations Integrated Mission in East Timor, and the World Bank, a good example of its willingness to work with other agencies as and when needed.

Kenya has been wracked by political division and violence since disputed 2007 elections. In the two years preceding national elections in 2013 and in the period afterwards, a GLF team made several visits to Kenya to advise and support the Independent Elections and Boundaries Commission, responsible for supervising the poll. The GLF team was jointly headed by Joe Clark and Sir Ketumile Masire, former President of Botswana (he died in 2017, aged 91).

The presence of Sir Ketumile, a widely respected African elder statesman famous for his honesty and incorruptibility, was particularly important, for African states faced with crises will accept another African leader as a friend and advisor but may resent the intrusion of a leader from the Western world who may be associated with the legacy of colonialism. The same often goes for other areas of the world, such as Asia and South America. It is a key policy of GLF to have a wide range of Members from all parts of the world, of every language, colour and religion, so that the right people can be matched to the right project.

As regards Kenya, the GLF says it "helped the IEBC to deliver its mandate successfully" in 2013. But the country's electoral divisions resurfaced at the next elections in 2017, when the Supreme Court ordered a rerun of the poll because of widespread fraud. The chief opposition party, which had lost the first election, boycotted the re-staged election leading to a low turnout and an even more bitterly divided country, and showing that much work still remains to be done to restore faith in Kenyan democracy.

GLF was invited to help reduce post-electoral tension in another African country, Ghana, in the wake of the disputed presidential election of 2012. FW de Klerk himself led the GLF team, along with Sir Ketumile Masire again, and Swiss politician Kaspar Villiger. Mr De Klerk gave a speech attended by leading figures from across the political spectrum on the need for peace, conciliation and the rule of law. He also met the opposition presidential candidate, Nana Akufo-Addo, who had only narrowly and controversially lost the election to incumbent President John Mahama, and other political figures and identified a possible approach to electoral reform which might unify a polarised electorate.

The next election, in 2016, went ahead peacefully: Mr Akufo-Addo stood again and this time defeated Mr Mahama by a comfortable majority. Mr Mahama conceded defeat and power was transferred peacefully to Mr Akufo-Addo's party. One obstacle to future stability is Ghana's economic fragility, and in 2014 another GLF team visited Ghana to help the government with its economic policies and natural resource management.

COOPERATION WITH OTHER ORGANISATIONS

Mr De Klerk emphasised the GLF's desire to work with other organisations wherever possible, including those with a similar remit. "There are quite a number of organisations trying to promote peace, trying even to promote better government. But there are none with the same niche that we have, none with the confidentiality, and none with the same objectivity. But we often work with them: the Club of Madrid, the National Democratic Institute in America, The Elders, and others."

Robert Fulton commented further on The Elders and the Club of Madrid: "They both operate in their own different ways. They are much more overt and they make statements on what they find. The point is that we are non-competitive, we are cooperative, we are collaborative, and we are happy that others take any credit if they want to publicise it, providing that it doesn't undermine our role as the discreet giver of advice that Mr De Klerk has described."

DO'S AND DON'TS OF LEADERSHIP

Mr De Klerk has strong views on the role of leaders. "True leaders should not follow the polls. Leaders should define the polls. Leaders should develop a vision for themselves. And they should develop action plans to implement that vision. Their challenge is to convince their constituency, first their own party, but then also the voters, that this is the way to go. This is in the best interests of the country even if it requires some sacrifices to be made at an early stage. That to my mind is the mark of a true leader, not to say: what do the voters want to be fed and I will feed them with it. Unfortunately we don't have many leaders who are doing that at the moment."

Did he himself benefit, when President of South Africa and preparing for the huge breakthrough he was about to make, from discreet advice from contemporary world leaders like President George H.W Bush and Mrs Thatcher? Would it have helped him?

"No, no. What helped me was not the advice they gave me. I didn't look for advice from them because they made their positions clear publicly. What helped then was that they decided to trust me when I gave them the assurance that things were going to change fundamentally. I took them into my confidence about what I had in mind. I saw Margaret Thatcher before I became President (I was already the leader of my party but P.W. Botha was still the President) and I saw Helmut Kohl and François Mitterrand before that. And they helped me tremendously by the support they gave me to say that if you do that, you can rely on us."

WINDOW OF OPPORTUNITY

An important aspect in many breakthrough processes is the window of opportunity. FW de Klerk actually used that phrase in his autobiography *The Last Trek: A New Beginning* to describe the sudden and unexpected opening afforded by the fall of the Berlin Wall in 1989 and the subsequent collapse of the Soviet Union, which had been the main supporter of the ANC and of revolutionary movements throughout southern Africa. The disappearance of the ANC's paymaster and the fact that the United States was suddenly the world's only superpower provided an opportunity that De Klerk was quick to seize.

Mandela too realised that he now had a decidedly weaker hand, which helped to force him to make more concessions than he might otherwise have done.

"Constantly windows of opportunity open themselves up in politics, in the economy or wherever," said Mr De Klerk. "The challenge for leadership is to see the window of opportunity, to realise that it might close again, and to identify and to jump through the window before it closes again. I think it is a regular occurrence.

"As I follow from a bit of a distance the negotiation process with regard to Brexit and the European Union, I think there are windows of opportunities which are not being used. I think there is too much rigidity. Also from the European Union side they are not creating windows of opportunity."

LOOKING AHEAD

Like all successful organisations and institutions, large or small, GLF is constantly seeking to improve its processes and adapt them to a fast-changing world. Its ground rules remain the same: peer-to-peer engagement, with past leaders helping the present generation; confidentiality; and non-profit. It remains non-competitive but actively collaborates with all manner of other organisations, such as the World

Bank, IMF, UN bodies and NGOs. It insists its Members must have clean hands. The Members themselves choose the next Member: if any one of them objects to a nomination, it fails. Or as Robert Fulton put it, "One thumbs-down stops it." All generations are considered: African nations tend to revere age, so older ex-politicians are welcome. Other countries prefer more youthful advisors, alert to the age of social media and demographic trends.

GLF is studying the implications for political leadership of social media and is establishing links with young business people and groups, and with universities. Its Annual Meeting, attended by Members, donors, and other supporters, has become "absolutely pivotal", according to Robert Fulton, a vital networking event during which Members and supporters can meet, share ideas and identify future project opportunities.

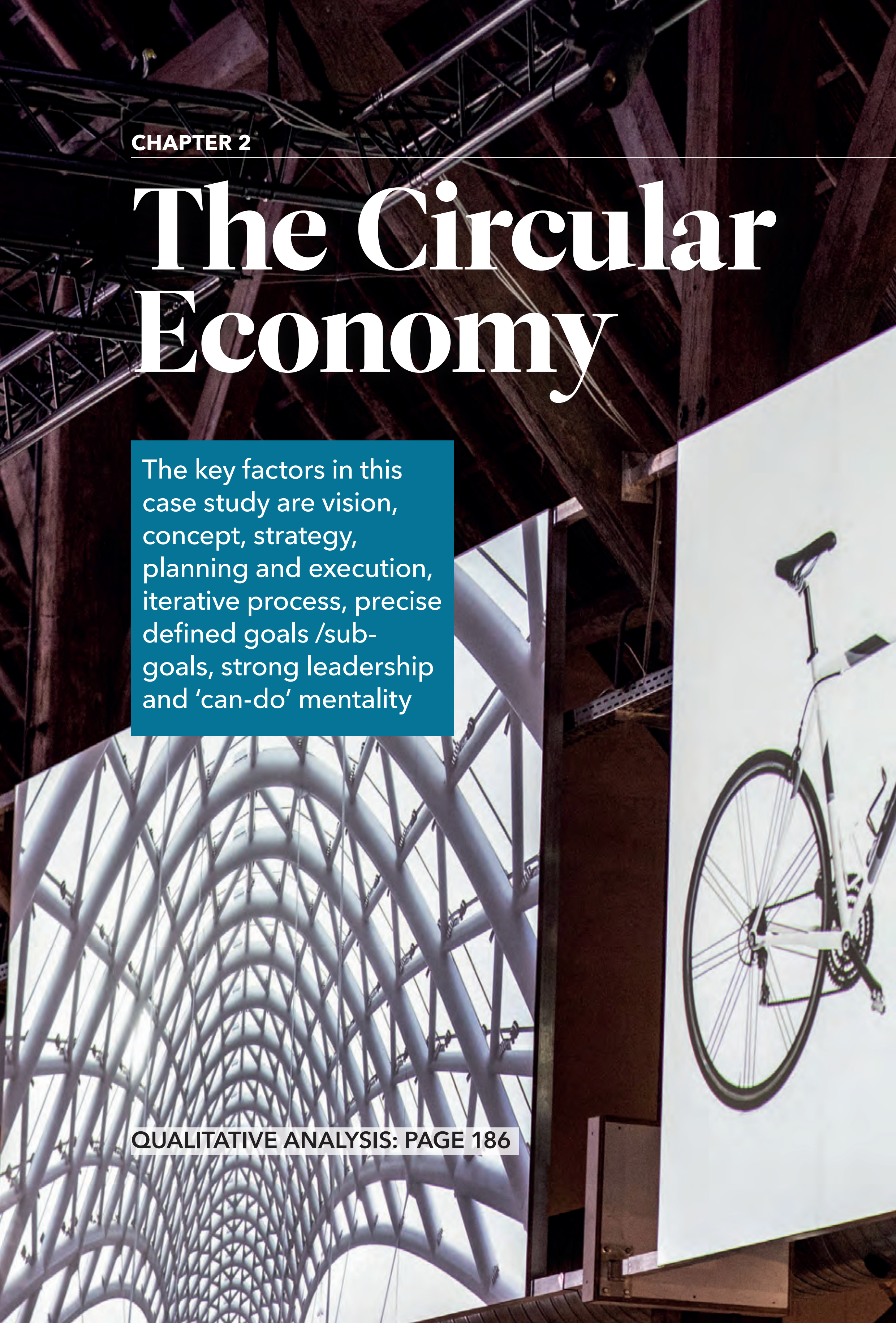
Looking to the future, is Mr De Klerk optimistic that the Foundation has what is needed, and that there are further opportunities down the road?

"Yes. I must admit that when I started it, deep in my heart I was a bit sceptical. I was wondering, would this catch on? Is there really room and space for this? As the years proceeded, I became convinced yes, there is room and space for it. And as we experienced that we were making a difference in a number of instances I started to believe in the whole operation.

Today I believe more strongly than ever before that there is room and space for this to go way beyond my own years. We are trying our best to focus on renovation, on rejuvenation in our Membership, and from amongst them will come somebody who can take my place the day when I have to go."

In the fourteen years of its existence, GLF has evolved from an innovative idea to become a force for good. The complexity and ambiguity of an increasingly volatile and uncertain world provide both challenge and opportunity for the Foundation. The challenges arise as those who carry the burden of leadership are deafened by the demands of populism and overwhelmed by the scale and pace of change in the world around them.

The opportunities for the Foundation to make a difference lie in an increasingly varied range of ways and on an ever wider range of topics. The keys to success for the Foundation, as for so many other organisations, will be the strength to preserve the values and principles that define it, the willingness to adapt its ideas to a changing environment, and the wisdom to distinguish between the two.



CHAPTER 2

The Circular Economy

The key factors in this case study are vision, concept, strategy, planning and execution, iterative process, precise defined goals /sub-goals, strong leadership and 'can-do' mentality

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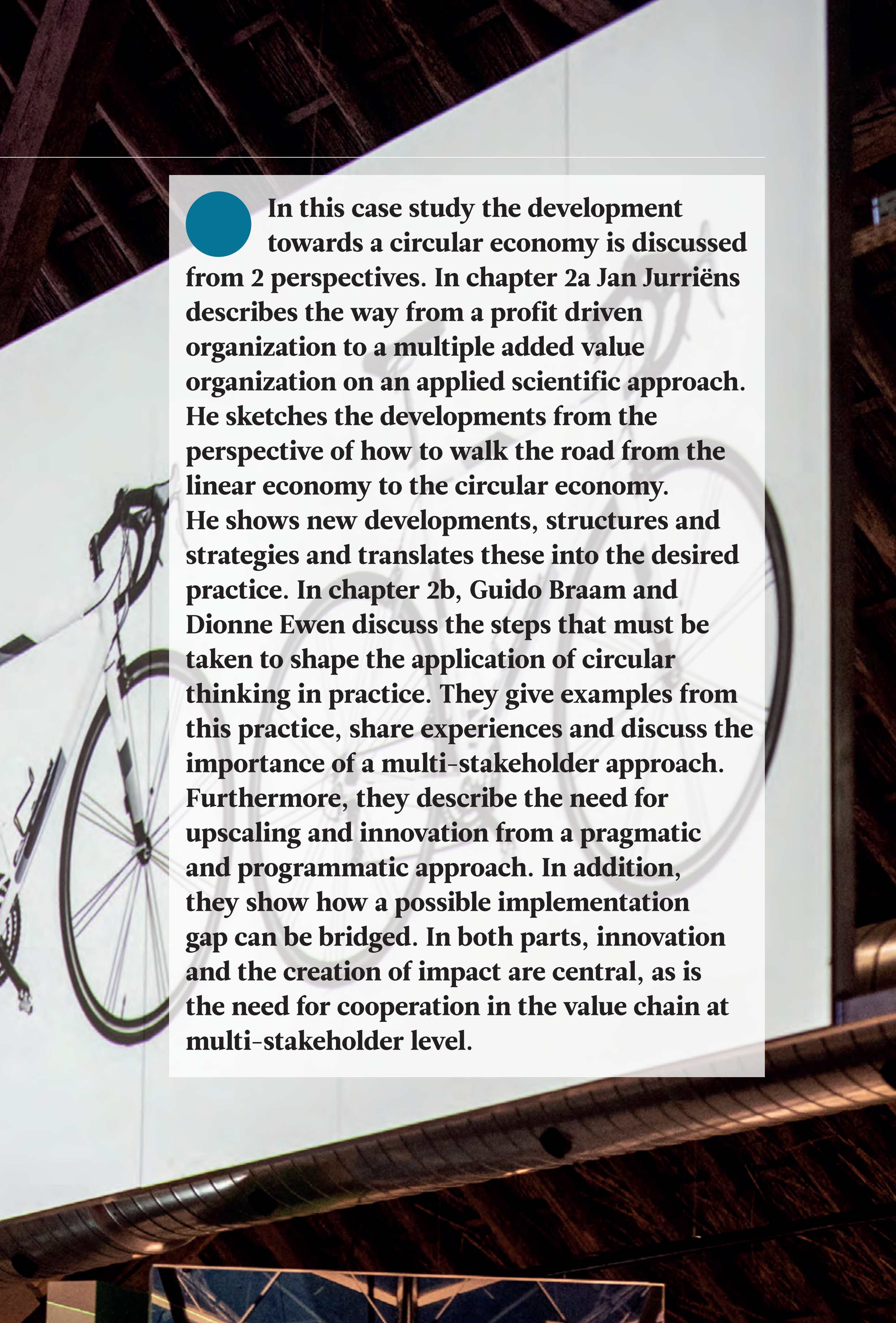
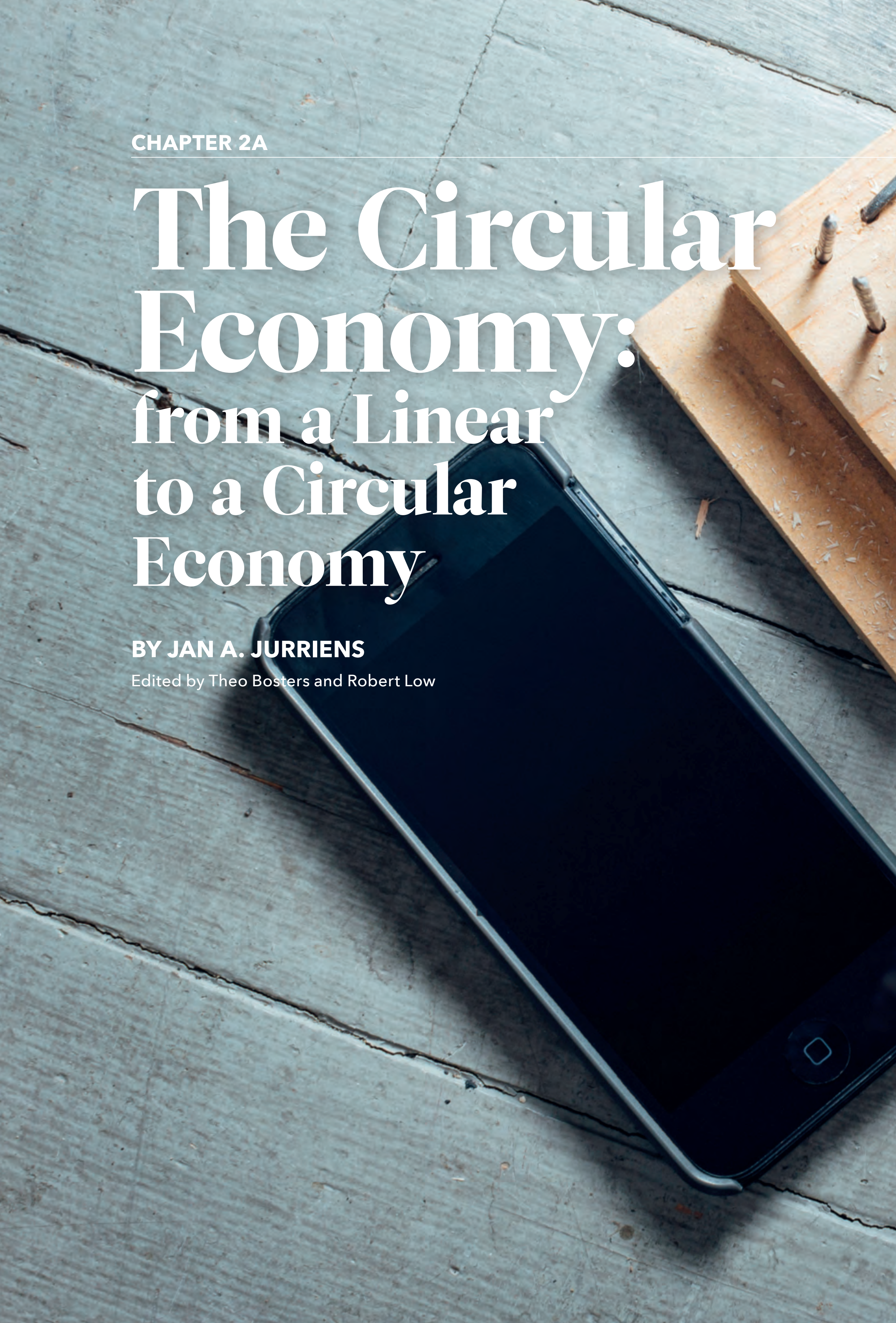


In this case study the development towards a circular economy is discussed from 2 perspectives. In chapter 2a Jan Jurriëns describes the way from a profit driven organization to a multiple added value organization on an applied scientific approach. He sketches the developments from the perspective of how to walk the road from the linear economy to the circular economy.
He shows new developments, structures and strategies and translates these into the desired practice. In chapter 2b, Guido Braam and Dionne Ewen discuss the steps that must be taken to shape the application of circular thinking in practice. They give examples from this practice, share experiences and discuss the importance of a multi-stakeholder approach. Furthermore, they describe the need for upscaling and innovation from a pragmatic and programmatic approach. In addition, they show how a possible implementation gap can be bridged. In both parts, innovation and the creation of impact are central, as is the need for cooperation in the value chain at multi-stakeholder level.



CHAPTER 2A

The Circular Economy: from a Linear to a Circular Economy

BY JAN A. JURRIENS

Edited by Theo Bosters and Robert Low

The Centre of Expertise for Sustainable Business (ESB) of the Avans Hogeschool (Avans University of Applied Sciences) in Breda, The Netherlands, represents a group of researchers whose main focus is research into broadly applicable sustainable solutions in society. As sustainability in business is part of their mission, the Centre of Expertise conducts practice-oriented research. The ESB creates knowledge, insights and products that contribute to professional practice and to solutions to economic and social issues. Increasing value in the Brabant region and enriching educational programmes are their main concern. Ideas for the research agenda of the lecturers of the ESB are put forward by professionals and by Avans' academies. The output of this research is the result of an ongoing dialogue between researchers and relevant stakeholders. In this, the demand for knowledge is always related to the question of goals and ability. The ESB chooses research that contributes to establishing connections which reach across disciplinary boundaries and professional fields. In keeping with this idea, they work in close conjunction with other centres of expertise, universities, research institutes, industry and business.

DEVELOPMENTS

There are three important developments when considering the subject 'Sustainable Strategy & Innovation'. First, the principle of circularity requires a shift in thinking about processes in terms of sustainability. It requires finding a balance between 'people, planet and profit' and in the end this has an effect on how people and organisations will relate to each other in a sustainable and connected way. A logical consequence of this development is a shift in thinking from (product) innovation to multiple value creation. Circularity has stimulated this way of thinking: two-thirds of our economic growth consists of this type of innovation. The third development concerns a state of transition. As a result of these new developments and also driven by government policies and technological innovations, world powers, organisations and civilians find themselves in a state of transition. All three developments will be covered in detail in the following sections.

1.1 FROM LINEAR TO CIRCULAR

Our current 'linear' economic model is based on a firm belief in achieving short-term profit. We consume natural resources and apply our human resources in an unethical manner; the magic words are 'cost saving'. We buy products that are mostly designed on the basis that they will end their lifecycle as waste: the product to waste chain (Ellen MacArthur Foundation 2015).

The call for the pursuit of a circular economy aimed at sustainable value gets louder and louder. In such a system capital is not only represented by money but also by social, human and natural values. We move from profit made per product to profit per customer and value for employees. We refer to this as the new way of innovating.

CO-CREATION AND INTERACTING

As a result we need to focus on co-creation and interacting rather than on competing. We want to move from a hierarchical market-based model to society- and value-based business models. Because everything is related, we call this multiple valuation through cross-

FIGURE 1. THE LINEAR ECONOMY (SOURCE: ELLEN MACARTHUR FOUNDATION)

sectoral cooperation via international knowledge networks.

In a circular economy, the desire to recycle all product components is taken into account from the outset in the design phase. As a consequence the demand for production and for the extraction of raw materials falls and the amount of waste decreases. The objective is to scale up to chains of recycling which results in less pollution and a decrease in the consumption of energy. Through investing in a circular economy, the Netherlands will be less dependent on raw materials from abroad.

From the beginning, in the design phase of products and services,

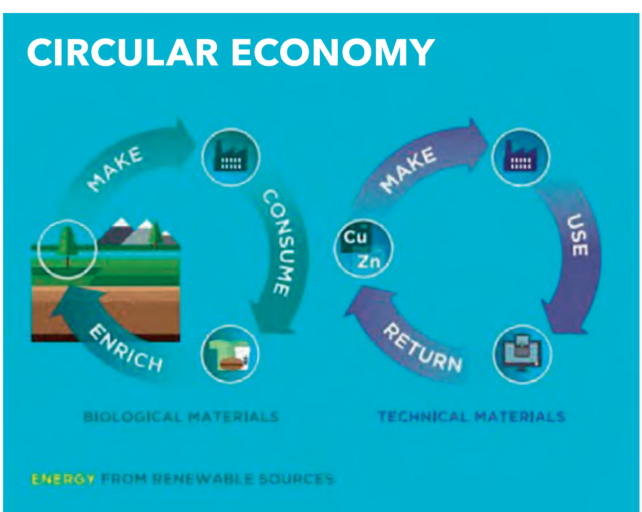


FIGURE 2. THE CIRCULAR ECONOMY (SOURCE: ELLEN MACARTHUR FOUNDATION)

attention should be paid to circularity. In this regard, Niesenbaum's (2014) theory in which he mentions 'value-sensitive design' is relevant. This design method takes the objectives of all stakeholders into account, looks at effective work processes and communication between stakeholders, pays attention to cooperation (transdisciplinary), keeps an eye on the alignment of stakeholders' interests, and provides the infrastructure for the exchange of knowledge.

Translating the theoretical concepts of the circular economy to the stubborn and slow-to-change practices of international business is the challenge. At the World Economic Forum in Davos (February 2015), the Ellen MacArthur Foundation and McKinsey presented a report on the economic benefits of the circular economy. They called it 'Reconciling the circular economy with the reality of the world economy and the complexity of supply chains'.

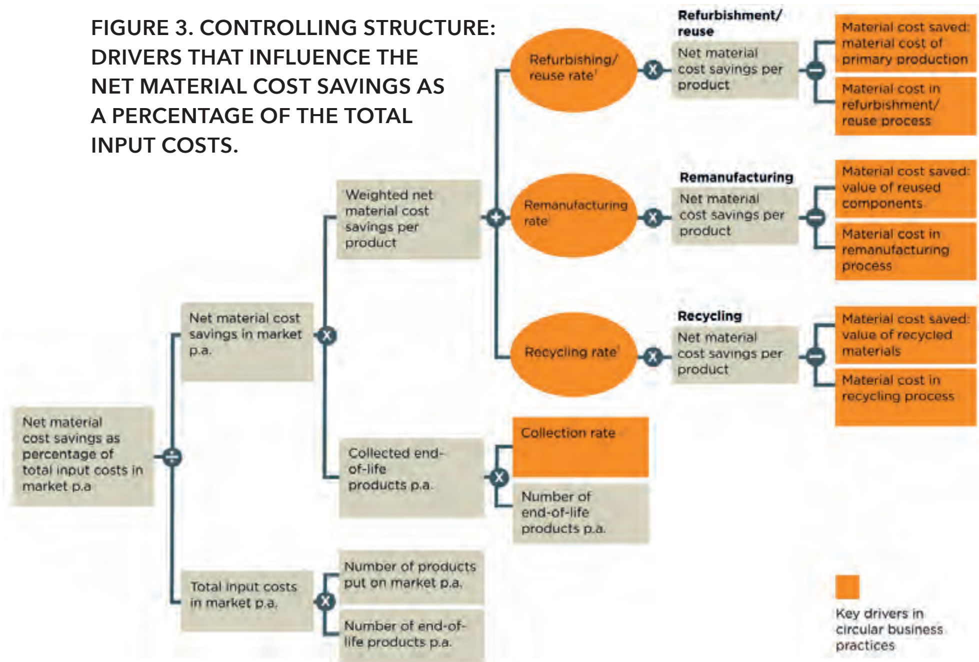
According to both organisations, the circular economy should stimulate or drive industrial innovations and value creation in the 21st century. Ellen MacArthur placed these drivers in the so-called 'drivers' tree' with the factors 'refurbishing, remanufacturing, recycling and collection rates'. The drivers' focus is rather one-sided on saving costs for companies.

RECOMMENDED STRATEGIES BASED ON THE 'DRIVERS':

1.BUSINESS MODELS NEED TO BE STRUCTURED DIFFERENTLY WITH THE OBJECTIVE OF CREATING MORE VALUE PER UNIT OF RAW MATERIALS. Worldwide, supply chains will be more and more circular. As a result of this, the cost of recycling materials (higher on the ladder of Lansink [TNO 2012]) can decrease. With steel, for example, the circularity method is predominantly recycling (TNO 2013). This positions it too low on Lansink's ladder; this circularity's value even turns out to be negative. This means that the value of the circular feedback loops is lower than new value. Scaling up within the chain might change this.

Recycling and upgrading finished products and/or parts of finished products is important in moving up Lansink's ladder. This can be done in various ways: renovate, upgrade and bring to the market as an enhanced product; offer products as good second-hand equipment with guarantees; offer products as second-hand but still useable; and using data about product usage in the development of new products.

FIGURE 3. CONTROLLING STRUCTURE: DRIVERS THAT INFLUENCE THE NET MATERIAL COST SAVINGS AS A PERCENTAGE OF THE TOTAL INPUT COSTS.



This results in a larger potential for cost savings and promotes prosperity and employment. Many theories have this as their subject (Starreveld et al, 2007; Rappa, 2012; Houtgraaf et al, 2010; Anderson, 2009; Osterwalder et al, 2010; and Jonker et al, 2012). But an overview that also relates to the application field is lacking. These theories have the following characteristics:

• The manufacturing of a service product usually happens through cooperation;

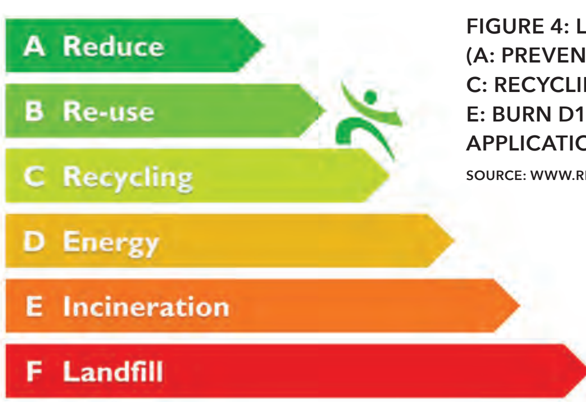


FIGURE 4: LANSINK'S LADDER. (A: PREVENTION, B: RE-USE, C: RECYCLING R1, D: ENERGY, E: BURN D10, F: DUMP. USEFUL APPLICATION, REMOVAL)

SOURCE: WWW.RECYCLING.COM

• Money is no longer the only currency, more often it is about the exchange of needs. In other words, the added value shifts from ownership, possession and control to having access to, use when required, and trust.

2. REACHING CRITICAL MASS AND HANDLING THE CORRECT MATERIALS. Start with four categories of materials and choose the correct raw materials from one of them. The first category consists of 'Golden Oldies' containing paper, metal, and glass among others. In addition, initiate a number of 'trigger projects' to reach critical mass. MacArthur and Kinsey put it like this: at the beginning, a material that has many applications should be chosen.

The potential is evident but to make circular thinking a success companies will have to change their way of operating and develop new business models. And that is not all that is needed. New services or products (technologies); a different customer relationship; ICT systems for making data available. The availability and the use of relevant information is a factor for success where improving operational processes and recording feedback loops are concerned.

Often only limited use is made of information that is already available simply because it is not known that the information is available or because it is not easy accessible. The capacity and the instruments to improve on this are often not available whilst knowledge is. This knowledge (put into practice) is often not used. If we don't bridge that gap, we stay stuck in the 'innovation paradox'.

STEEL

Steel is one of the five base materials that are most in demand. The production of steel contributes about 25 per cent to total industrial CO_2 emission. The circularity of base metal consists mostly of recycling (TNO 2012). It is on a low rung of Lansink's ladder; the value of this circularity is negative (that is the value of the circular feedback loops compared to the new value).

1.2 FROM (PRODUCT) INNOVATION TO MULTIPLE VALUE CREATION

THE DEVELOPMENT OF THINKING ABOUT INNOVATION Government considers innovation a necessity for achieving economic growth, the driving idea being that the traditional European production industry is not competitive in world markets. Research into innovation is in a constant state of flux. Innovation policy and research have developed from linear to circular systems thinking. In addition, we see a broadening of the research field into the public domain and increasingly attention is paid to innovation of services. A brief outline of these developments is provided below.

Until the 1990s, the linear model was dominant in innovation policy. The focus was on building a sound R&D infrastructure, providing financial support for companies for innovation, and the transfer of technology. The policy focused on supporting instruments aimed at output. There was little attention to behaviour and to management and organizational bottlenecks, in particular in small and medium-sized enterprises.

Research on innovation is mainly aimed at the private domain. However, in the last few years there has been increased attention on innovation in the public sector

This also applied to the specific demand for support for innovation in the regions. In response to this the systems approach was developed, whereby innovation was seen as an evolutionary, non-linear and interactive process.

This process required intensive communication and cooperation between various departments in companies, as well as between companies and other organisations such as universities, educational institutions, financial institutions, and government and regulatory authorities.

Within the systems approach there is a distinction between hard and soft factors. Hard factors, for instance, are the physical infrastructure, educational level and economic structure. Soft factors are, among others, network activities, the willingness to cooperate, and entrepreneurship (OECD 1999). In addition to national and sectoral factors, the regional dimension receives more and more attention when systems for innovation are being researched. The use of raw materials and dealing with outdated technology are also factors.

Research on innovation is mainly aimed at the private domain.

However, in the last few years there has been increased attention on innovation in the public sector, but literature on this is still fairly limited. Hartley (2012) outlines a number of differences in innovation in the public and private sector. First, the drivers for innovation differ.

In the private sector, market pressures determine the extent of innovation. In the public sector innovation happens in a dynamic and political environment, and it appears that the catalyst for innovation can operate bottom-up, top-down and laterally (by disseminating best practices, for example).

Furthermore, the unit of analysis differs. In the private sector, this unit is often the individual company while in the public domain the sector is the central objective. Lastly, it is interesting to note that government plays an ever-larger part in the private sector where innovation is concerned. It has a facilitating and at times even an initiating role.

SHIFTING FOCUS

At the end of the 19th and at the beginning of the 20th century innovation was mainly aimed at technique and technology. From the 1930s until the 1980s, the focus shifted to the organisation and to marketing (Freeman, 1974; Schumpeter, 1934). The economist Joseph Schumpeter distinguished between new or improved products, new production methods, new markets and new ways for companies to organise themselves.

At the end of the last century, the concepts 'social' and 'political' were added. In the Netherlands the Social Innovation Taskforce (in 2005) uses the following definition for innovation: the renewal of labour organisations in making maximum use of competences aimed at improving business results and developing talent.

Copy and paste is not an option. For example, the knowledge developed in the private sector often concerns product innovation. One cannot automatically apply this knowledge in the public context where services are the main focus.

The innovation process no longer occurs as a 'stand alone' in an organisation or a department. The starting point is joint innovation, also referred to as open innovation (Chasebrough, 2006).

PERFORMANCE

The Netherlands' performance in the Global Innovation Index (GII, 2014) varies: 8th position in 2010, 10th in 2011, rising to 4th in 2015 and up to 3rd in 2017. We have a high score on output, online e-par-

HIGH PERFORMANCE IN 2014	LOW PERFORMANCE IN 2014
Delivering knowledge-intensive services (number of people employed): 8th (Germany 14th)	
Cooperation between education and industry = 11th (Germany 9th)	Cooperation in alliances: 42th (Germany 59th, Middle East in top 5, Luxemburg, Greece and Ireland in top 15, Switzerland 17th)
	Use of sustainable energy, including 'ecological footprint' low

ticipation and efficiency in innovation. We do not perform that well on innovation climate and investment climate, the drivers of innovation. More important, however, are scores for service and sustainability, whereby sustainability refers to 'energy' as well as 'cooperation with partners'.

The Netherlands is in 8th position worldwide when it comes to delivering knowledge-intensive services. This is particularly relevant for service provision, the main growth factor in our economy. We rank 11th on 'cooperation between industry and universities and higher education colleges'. This in particular is an element of open innovation. It is striking that we rank 42nd on cooperation in alliances, specifically if taking into account that Luxemburg, Greece and Ireland are in the top 15. We also rank very low on 'use of sustainable energy'.

If cooperation is of such importance, then the GII report rightly states: 'The need to gather more knowledge of, and a better understanding of, the role that the human factor – along with technology and capital – plays in innovation is critical. Adequate education, training and motivation in schools, universities, business, civil society and the government itself is a challenge.' This challenge especially concerns countries with higher incomes such as The Netherlands.

FROM TECHNICAL INNOVATION VIA SERVICES TO MULTIPLE VALUE INNOVATION Authors predominantly distinguish between product, process and service innovation (Luecke and Katz 2003, Albury 2005). In practice we mainly see an increasing importance in service innovation. This is not just because the customer tends to be forgotten in product innovation (see the Lego case study).

BLIND INNOVATION BY SO CALLED 'CREATIVES'

In 2013 'The Gelderlander' reported that 'creatives' had brought Lego to the brink of the abyss through their urge for innovation. But, reading on, one notes that 'Lego has a solid foundation again.' Turnover of below 1 billion Euro in 2004 increased to 3.14 billion Euro in 2012. The loss of 752 million Euro in 2004 was turned round to a profit of 752 million Euro in 2012. Lego is now the world's second-largest and most successful toy manufacturer.

What happened in 2004? There were many innovations and product launches during that period. In itself that is not a problem because that befits the product leader in the sector. But it also included many 'alien' products/projects, such as Lego theme parks, clothing, video games and jewellery, that had little connection with the foundations Lego is based on. The creative minds, always Lego's strength, were driven by the blind urge to innovate. Products and projects were often not particularly successful and failed to sell. Lego lost a major part of its market to the games sector, which did grow and saw its profits increase.

Why? Lego stopped communicating with its customers. The image of the customer was replaced by the images of the creative product and project developers.

What did Lego do between 2004 and the present to break this downward spiral? The company started to communicate with children and immersed itself in their experiences. Children and their parents started to actively contribute ideas about products. For example, the Friends product was assessed by 3,800 girls and their mothers before its hugely successful launch in 2012.

The basic product (the building blocks) was a product that helped children all over the world to play together. Connections to existing trends like Star Wars were made around this and new worlds were developed. The company distanced itself from theme parks, products and experiences that were not connected to Lego's basic product, building blocks.

In retrospect, we see that Lego stopped researching. The company no longer knew what children (and their parents) wanted. Lego did not communicate or discuss things with them. That is harmful, because product experience innovation must be based on what customers, in this case children, want.

Communicating with your stakeholders and researching their needs is the basis for innovation.

The majority of our economic sectors and the innovation in them concerns services (Luecke and Katz, 2003). It therefore makes sense that about two-thirds of our economic growth comes from new services (Amsterdam Centre for Service Innovation, 2014).

Communities of well-informed consumers are gaining influence; they are no longer a passive audience. 'Innovation' becomes 'innovation of experimental environments' where consumers (communities) and (networks of) companies cooperate to create personal experiences for individual customers. Open innovation, a definition introduced by Henry W. Chesbrough (2005), matches this. Consumers' and companies' roles are becoming increasingly similar. Innovation is thus enabling customers, together with (networks of) companies, to create a personal and unique experience (Prahabad and Ramaswering, *The Future of Competition: Co-Creating Unique Value With Customers*, 2004).

Service innovation may flourish but innovation research is still mainly based on a sector where physical goods and industry are dominant. As a consequence, innovation is too often limited to technological innovation. Because of this, various researchers into innovation, like Den Hertog, argue in favour of paying more attention to service innovation. Service innovation is often multi-dimensional and appears in many ways: the introduction of a new service concept, for example a new shop formula, new ways of interacting with buyers, combinations of elements that jointly bring a new service to the market, the introduction of new business models.

Technology, developed and used by services, is (too) often not sustainable. The increasing need of consumers and businesses for technology which is manufactured in a sustainable way demands further developments. Lecturers at the Avans Centre of

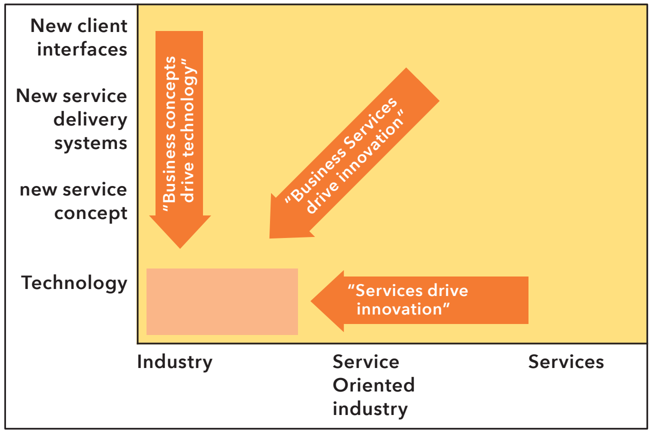
SERVICE INNOVATION

Den Hertog (2010) defines service innovation as 'new service experiences' or 'new service solutions'. Hartley (2006) deepens the definition of 'services'. He distinguishes between:

- Position innovation, aimed at finding new contexts and clients;
- Strategic innovation, aimed at finding new goals and strategies;
- Governance innovation, aimed at finding new ways to involve civilians and public organisations in innovation;
- Rhetorical innovation, aimed at finding new concepts and ways of communication.

This concerns social challenges, where often the definition of 'social innovation' is used: 'The development of new management capabilities (dynamic management), flexible organisation principles (flexible organising) and realizing high value oriented form/shape ('work smarter') to increase competitiveness and productivity.' (Inscope Research Initiator, 2014; AWT; 2014). Social innovation is also often defined as a means by which one stimulates or creates stronger entrepreneurship (Erasmus, 2014). Cooperation (smarter) and co-creation or innovation is then used as a driver (Bauwen, 2015).

FIGURE 5: VALUE CREATION



Expertise for Sustainable Business call for a paradigm shift in innovation such as service concepts, realised in a sustainable way, as a driver for necessary, sustainable, technical innovations (Jurriëns, 2005). Product innovation will be achieved increasingly as a result of the requirements of service innovation (concept) — not ' driven by technology' but 'driven by needs'.

Value thinking is an emerging phenomenon in the innovation field. Value creation concerns multiple value outcomes. Various agents play a role in this. They work together strategically (not limited to the customer-supplier relationship) and are not focused on a transaction. The foundation is: exchange/swap against a number of currencies (money and other things) and appreciation based on each individual's self-interest.

In other words, creating multiple values. Arjo Klamer (2011) broadly describes values (see box below). He identifies a large number of values that vary from spiritual and aesthetic to communal. It is a clear extension of the focus on financial values. Luijendijk (2015) describes the discussion about values in the banking community in London, in

VALUES THAT MATTER

(according to Klamer, 2 December 2011, Jonger etc, 2014)

- Transcendental (from spiritual to intellectual);
- Social (from relationships between people to collegiality)
- Personal (from development to consciousness)
- Communal (from society in general via equality to sustainability)

FROM	TOWARDS
Financial profit	Multiple (financial, ecological, social) value
Maximisation as driver	Optimisation as driver
Derive value from	Create value
Harvesting from a perspective of scarcity	Harvesting from a perspective of abundance
Shareholder value	Social value
Exploitation of natural and human resources	Cooperation with nature and humans
Linear value chain	Circular value networks
Value proposition	Value cycle
Led by price	Led by quality
Self-reliance	Reciprocity
Overhead	Adaptive ability
Shifting responsibility for problems elsewhere	Solving problems
Consumer	'Prosumer'
Have and own	Share and maintain
Throwaway (product/employee)	Co-ownership

FIGURE 6: NEW PERSPECTIVES ON VALUES

particular the fact that one viewed moral values as moral, immoral or amoral. The latter value was the starting point for bankers: comply with the rules but not out of a moral conscience. This was judged to be 'out of line' by society as a whole.

This outline of value thinking is a major change from thinking and operating in companies and 'communities'. Jonker (red. 2014) gave Klamer's values more substance and compared them to current outdated values. He describes this transition (see figure 6) and gives a new perspective of which the main terminology is value, circularity, networking and reciprocity.

1.3 TOWARDS SPEEDING UP AND MULTIPLICITY OF TRANSITIONS

Business, and thus the way we earn our money, is going through a major development.

> Whereas the current economy is based on economic values such as growth, efficiency, effectiveness, and wealth, a sustainable economy is based on different values such as quality, quality of life, diversification, and well-being (Rotmans, 2012, P.1.).

We are at a turning point: 'our hierarchical, top-down society is changing into a sustainable, bottom-up networking society' (Rotmans, 2012). This is a result, among others , of the new popularity of sustainability (already there in 1972 because of the Club of Rome) (Jonker, et al 2012) and influenced by the recent global financial crisis (Rotmans, 2012). How companies should react to this has not been sufficiently researched. The focus will be on organising activities in a sustainable way to which everyone will be challenged to make a contribution.

Holland is in transition. The 'buzz word' transition has many meanings. The website transitionnetwork.org lists about 100 transitions that are required to attain a sustainable society. The move towards a service-based economy from an industrial-based economy in the last century was also a transition.

So nothing new is happening. But the number of transitions and the speed with which they occur are new to us. Rotmans (2010) identifies transitions in healthcare, the building sector, energy supply, the mobility system and the sustainable economy. We will briefly look at the transition in the economy, this being a prerequisite for the other two sectors: the building sector and healthcare. These sectors are closely linked.

THE ECONOMY

To develop a sustainable society, it is essential to invest in a sustainable economy, particularly in view of the huge budget cuts of recent years and the amoral behaviour of bankers (Luyendijk, 2015). Rotmans (2010) identifies three levels:

- The financial, banking and debt crisis. Financial supervision with regulations for the financial markets and a morally-driven attitude towards companies and consumers (Luyendijk, 2015);
- The relationship between market, government and cooperation ?. A free market is no longer the best solution for a number of markets in Holland. Only the telecoms market seems to be able to handle free competition well but it does require a regulator (Jurriens et al, 2005);
- Virtues, standards and values for the economy and for society.

THE BUILDING SECTOR

Even before the crisis hit the building sector between 1990 and 2000, this sector had to face charges of fraud. They were was investigated by a fact-finding committee of the National Assembly at the beginning of the century. The committee's conclusion was clear: 'In the building sector, fraud was committed on a large scale. Parties made price-fixing agreements that resulted in a lack of competition. Supervision had failed.' Moreover, the system led to prices being driven upwards and a lack of interest in technological innovation.

Luiten et al (2004) stated that open tendering is aimed at obtaining the lowest price and not at achieving the best performance. In a highly competitive market and the delivery of a large number of relatively low-value services, chances for price-fixing agreements are high. They advised maximising returns for contractors combined with lowering the risk for clients. In various states in the US, this is a proven system for 300 contractors. In this way there is more cooperation and it contributes to taking each other's interests into account.

The economic decline in the building sector and/or the decline in revenues started after the financial crisis. Compared to 2006, architects received 75 per cent fewer orders for new homes and utility buildings between 2007 and 2012 (CBS, 16 July 2013).

Historically, the building sector is a traditional sector even though innovations have been made during the last couple of years. An overview of innovations and experiments in the building sector can be found on the website de bouwvernieuwer.nl. But Rotmans (2010) points out that the innovation process is a fragile one (only 10 per cent of the sector is involved in innovation processes).

Where cooperation is concerned, several issues stand out. Innovations have not yet been incorporated into the construction regime; not many parties are involved in innovation experiments; and there is too little competition to facilitate the application of innovative knowledge. In the construction world, there is a complex and fragmented field of influence with a lot of conflicting interests.

According to Rotmans (2010), several elements of the building sector need to change:

- The building sector as supplier of services. The sector needs to develop from a supplier of building works to a supplier of services. It needs to switch to using concepts whereby it must see customers' needs in a holistic way. This is consistent with the development from product to service innovation mentioned earlier;

- The building sector delivers social added value. Social issues concerning living, working, mobility and recreation are also issues for the building sector to consider. This is consistent with the development from product to value innovation;
- The building sector as an innovative sector. The building sector should deliver more innovative and sustainable concepts. The traditional tendering system will accordingly change to delivering functional specifications
- Outside focus. The building sector develops into a cooperative partner which works on a holistic basis with other parties.

The building sector must increasingly seek to cooperate with other parties in the network. That is one of the conclusions derived from this report. The Building Information Model is the basis for further growth in the sector. In this model, data of the building to be built and the relationship between data is recorded and managed. For a start, more attention should be paid to data which shows information about the sustainability of the building and a sustainable way to handle 'worn-out parts' in a sustainable way. Furthermore the model should be developed into a cooperation model for building, which could be based on the exchange of information.

HEALTHCARE

Government has initiated the transition in healthcare. There is a shift from central to decentralised financing, and government is working on huge budget cuts in healthcare. The strong focus on costs and the corresponding bureaucracy turn out to negatively influence effectiveness and efficiency. Each year, costs in healthcare increase while the number of hands-on medical staff decreases. Overhead constitutes an increasing part of healthcare costs.

It is time for a paradigm shift in healthcare. Various organisations have already started to act, in some cases successfully. But the sector has a long way to go. The transition will only be completed once the starting point is modified: 'away with systems thinking', more control for clients. This implies a change in the professionals' role, from leading to supportive.

Human capital stems from cooperation and services are organised with the customer being the focus. The professional must be able to utilise his/her professional capacity whereby he/she is supported by the organisation. The organisation should limit the administrative burden. This means no policy documents and strict rules but straightforward frameworks.

> This is driven by the idea that in practice it will result in cost reductions. In 2014, Holland spent about 90 billion Euro on healthcare. As a consequence of increased demographic ageing and multiculturalism, demand on healthcare is rising. Healthcare costs have stabilised in the last few years. There is a growing unwillingness in society to pay these costs.

Healthcare has its own characteristics. Despite the fact that the individual relationship between practitioner and client is essential, a healthcare professional or his organisation can hardly ever be regarded as an isolated unit. The professional is dependent on the input of others. It is very relevant to liaise with and transfer information to colleagues (Wesseling, 2007). No one (or no one part of an) organisation can be held responsible for the elimination of waiting lists. There is a chain or rather a network of organisations/professionals. Only through cooperation and the transfer of information can one reach the desired level of performance and quality (Kuilman, 2009).

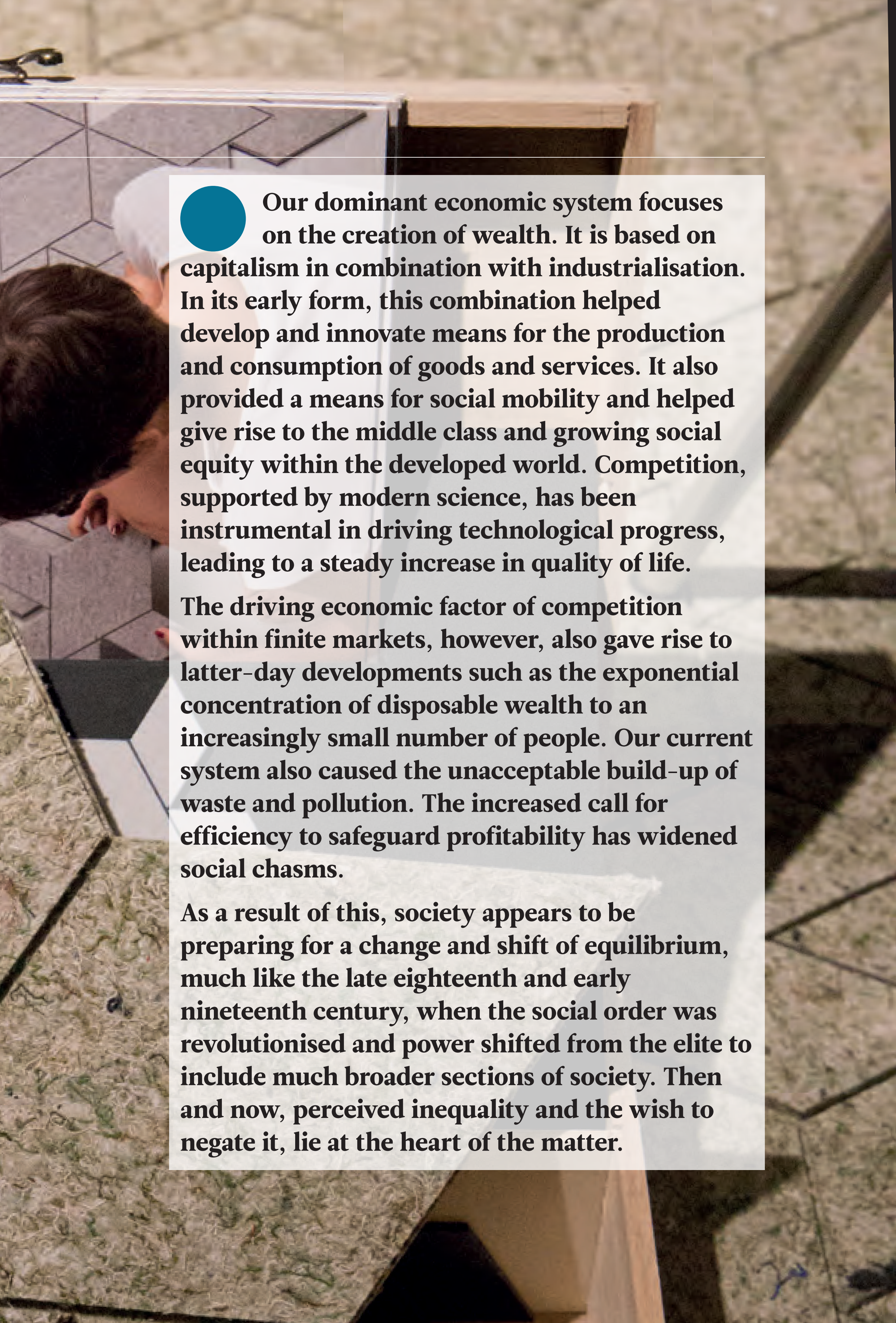
It is crucial that communities can make choices based on relevant indicators for quality of life. One of the issues here is that welfare professionals are not sufficiently equipped and trained to facilitate this development. In other words, these professionals lack the competencies and tools (especially where it concerns cooperation) and they don't know what new services they need to offer. Local government, healthcare professionals and civilians all struggle to set priorities and to put cooperation into practice in a transparent and democratically responsible way.

CHAPTER 2B

The Circular Economy as the New Normal

BY GUIDO BRAAM AND DIONNE EWEN

Edited by Robert Low



Our dominant economic system focuses on the creation of wealth. It is based on capitalism in combination with industrialisation. In its early form, this combination helped develop and innovate means for the production and consumption of goods and services. It also provided a means for social mobility and helped give rise to the middle class and growing social equity within the developed world. Competition, supported by modern science, has been instrumental in driving technological progress, leading to a steady increase in quality of life.

The driving economic factor of competition within finite markets, however, also gave rise to latter-day developments such as the exponential concentration of disposable wealth to an increasingly small number of people. Our current system also caused the unacceptable build-up of waste and pollution. The increased call for efficiency to safeguard profitability has widened social chasms.

As a result of this, society appears to be preparing for a change and shift of equilibrium, much like the late eighteenth and early nineteenth century, when the social order was revolutionised and power shifted from the elite to include much broader sections of society. Then and now, perceived inequality and the wish to negate it, lie at the heart of the matter.

The existing structures being challenged, currently often global corporations and their supporting governmental and financial structures, typically respond with protectionism, wishing to extend the status quo. This prompts the question: which dominant thesis will be responsible for breaking this status quo and reform our economic system?

INTRODUCTION

As stated, in times of perceived instability, self-preservation expresses itself in protectionist memes such as xenophobia and a general "fear of the unknown". Consider the fact that the earliest railways were not laid down by the owners of stage-coaches and that the smartphone was not invented by a phone company. Established structures hardly ever give rise to the new by self-reflection and the embrace of change, as they are often blind to the unsustainability of their own approaches.

This thesis is defined by system-wide collaboration and the creation of abundance through regeneration of finite resources through continuous cycling. The first relies on system thinking and is mostly hindered by mindset, the latter can be dealt with through the proper application of design thinking and understanding that the value of things lies in their functionality, rather than in their constituent materials. A state of the art smartphone only contains several euros-worth of material, but close to a thousand euros of added intelligence and appreciated functional value.

THE CIRCULAR ECONOMY

A circular economy, however, is not "just" about cycling bare economic value. It also takes into account the need for balance and social fairness, and it does away with the zero-sum game in "classical" capitalism where one might gain at the expense of another and not add net value to the system as a whole. In a true circular economy assets are available to all, but the difference in success is defined by the total value added on a systemic level, which can in turn be expressed in monetary terms.

This systemic approach is what makes a circular economic paradigm the model of choice. It fuses the basic idea that wealth creation and progress are goals worthy of pursuing with methodologies that ensure that these goals can be met without system depletion and ever-increasing social inequality.

Systemic collaboration demands new ways of thinking and working, and it relies much more on disclosure of key insights than on non-disclosure of competitively sensitive intellectual property. It requires supply chains to be integrated into the entire use cycle of products, so that information on the value of our goods in circulation may be preserved for future reference, and it requires transparency and open standards, not protectionism.

Systemic collaboration further increases the awareness of interconnectedness amongst people. None of us exist in isolation and so our personal and professional ventures do not either. We have a shared responsibility for stewardship, not only for those we know, but also for those we do not know, as well as our planet as a whole, now, and for future generations. This may appear to be a lofty argument, but our success as a species fully depends on us taking this responsibility seriously.

We all strive for meaning in our

THE DEFINITION OF A CIRCULAR ECONOMY

The circular economy is an economic and industrial system that prioritises the reusability of products and raw materials. The restorative power of natural resources is the starting point for a sustainable system where value destruction is minimised and value creation is optimised. This is opposite to the linear system in which economic growth is accompanied by using up non-renewable resources, disposal after use and where the objectives do not directly relate to shared value creation.

The current ideas around the circular economy are not new. They stand on the shoulder of giants like Walter Stahel's performance economy, Gunter Pauli's 'blue economy', the systems thinking of Donella Meadows and the work of Michael Braungart and Bill McDonough who introduced Cradle-to-Cradle. The recent enthusiasm also brings much fragmentation and diffusion, leading for example to more than 114 definitions for the circular economy. ("*Conceptualizing the circular economy: An analysis of 114 definitions*", Julian Kirchherr et al, Resources, Conservation and Recycling, Vol 127, December 2017, pp221-232).

lives, we wish to connect and to pass on whatever quality we may have added to the system to those who follow in our footsteps. Meaning can most certainly be found in our joint exploration of novel ways to replace the generation of wealth with the generation and preservation of value. To do so, we invite all to ignore or overcome the reflex of self-preservation, striving to maintain the status quo, and innovate in a more radical fashion, finding systemic interrelatedness as a welcoming framework for collaborative approaches.

THE RISE OF THE CIRCULAR ECONOMY

Over the last five years interest in the concept of the circular economy has risen tremendously. The report from McKinsey in conjunction with the Ellen MacArthur Foundation published in 2012 at the World Economic Forum ignited the idea, for CEOs and heads of government, that economic growth and restoration of our planet can be combined with this circular vision.

The years that followed yielded an ever wider, more integrated and more nuanced picture about what the circular economy is and can be. After years of reports, overviews, and reviews of material flows, the first (new) circular concepts were brought to market. Well-known examples are Philips' 'light-as-a-service' model and companies such as Interface and Desso which used Crade2Cradle and later the circular economy as the integrated model for their strategic transformation. Soon more pioneers followed with their first pilots. For example Mud Jeans received global attention with the 'lease-a-jeans' concept.

Much has been written about the different drivers that have caused the recent acceleration of the circular economy. Most frequently mentioned is the risk of resource scarcity, price volatility and increasing worldwide product demand. The technological sector, for example, faces scarcity of precious metals, such as gold, silver and platinum.

There are also the opportunities that drive sectors to keep up with the rapidly changing environment. For example, changing functionalities—and ownership—of buildings and business districts are more common. This challenges the construction sector to grasp this opportunity to remain relevant and diversify from competitors. Other drivers vary widely: reduction of greenhouse gas emissions and waste, legislation, innovation, marketing, collaboration, new value propositions and opportunities to increase residual value.

THE CIRCULAR ECONOMY AND THE STATUS QUO

In the meantime we have seen many pilots, a growing number of start-ups, more and more attempts by business to develop circular alternatives for their existing product-market combinations, and new coalitions of parties with new circular innovations. The government plays a clear role on the national and local levels in pushing the circular economy forward.

Yet the logical and inevitable circular economy has not shown an exponential growth. Not because the concept is incorrect, but because our current linear system is too much of a steady status quo that has been optimised in the course of decades and therefore still appears to be more cost-efficient than circular concepts. The key is that circular innovations lack the same scale or/and have to deal with barriers that come with every paradigm shift.

These are the typical first mover 'costs' and weigh heavily on a relatively small group of pioneers, barriers that include necessary alterations in laws and regulations, new risk assessment within financial institutions, unproven business models, and new ways of collaboration. They can be overcome in pilots and small-scale trajectories, but are a real roadblock once the projects are upscaled—a classic 'Catch 22'.

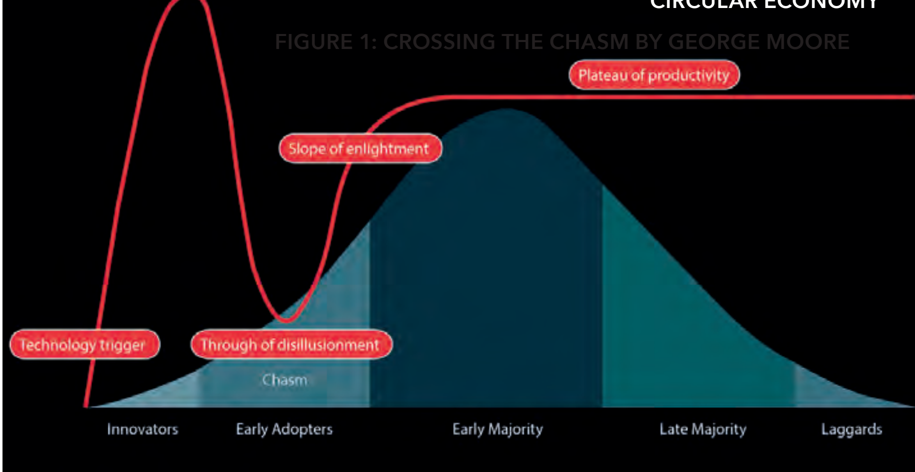
The success of the transition towards a circular economy in this phase will depend heavily on whether there is sufficient demand from the market. Demand gives air to the market by enabling entrepreneurs to raise the bar when it comes to innovation. It gives support and evidence that it can be done and with the right scale, and it becomes more feasible to get a return on the investment. The logic behind the circular economy leads to the hypothesis that a positive business case can be found in each sector, but the 'switching costs' are still too high for most companies. In other words, reality is tough. Governments on the local, national and European level play a crucial role in this development stage. They have the ability to be a launch customer and they are in prime position to change the rules of the game in favour of the circular economy.

HOW TO OVERCOME THE 'IMPLEMENTATION GAP'

Scaling is the necessary next step in order to make the circular economy mainstream. The last five years were characterised by creating awareness about the potential of the circular concept for businesses and government. First attempts and the many reports on the subject resulted in a better and more nuanced perspective on the circular economy. On the other hand, continuing the discussion on this topic is a rather safe strategy and the redundancy of impact reports and opportunity assessments can lead to even further procrastination by 'analysis paralysis'.

National governments and the European Union still work with a 'top down' approach and the stimuli that are created for the market are often too large and too complex for small and medium-sized enterprises. Examples are the Horizon 2020 grants and the EFSI Fund. Applying to gain access to these financial resources requires substantial investment in employees or funding experts with a reasonably big

FIGURE 7: PRODUCT LIFE CYCLE CIRCULAR ECONOMY



risk of not being selected. Based on the insights gained so far it is fair to say that we are dealing with a large-scale 'implementation gap'.

THINK BIG, ACT BIG, ACT TOGETHER

In this chapter we describe the eight most important levers for scaling up the implementation and therefore the realisation of the transition towards the logical and inevitable circular economy.

SCALING UP THE CIRCULAR ECONOMY

Scaling up means creating more demand: an increase in the number of launch customers (governments, business, consumers) for circular products and services will make companies act and innovate. There is no bigger incentive for a company than customer demand. That is why it is important that circular solutions be seen as the default solution.

The circular economy is new and, as with all innovations, the first steps are the most expensive. The linear alternatives are optimised, have a certain scale to divide the fixed costs of innovation properly and can lean on established recurring cash flows and depreciated assets. Moreover the issue of linear products and services is that their 'true costs' in terms of the environment are not accounted for.

Examples are societal costs and hazards of greenhouse gas emissions and particulate matter. Furthermore, one of the gravest barriers is that virgin materials are cheaper than secondary materials. There is currently no mature system in place that enables trade in secondary materials such as we see in the 'commodity market'.

Recent research by Utrecht University shows that the circu-

FROM CIRCULAR OFFICES TO CIRCULAR CONSTRUCTION

Office furniture is a great example of circular economy, because it is already standardised. Soon linear office furniture will be the exception to the rule. This started initially with pioneers in the carpet industry (Interface and Desso). But cradle-to-cradle companies, such as Royal Ahrend and Steelcase, use 'ready for disassembly' as a design principle for their office furniture, and Desko's refurbished furniture has contributed to this shift in the office furniture market. This movement recently started in the construction sector. Examples are a cradle-to-cradle-designed town hall in Venlo and Park2020 in Hoofddorp. The town hall consists of materials and products that are not harmful for people and the planet during the production process, use and future use.

lar economy remains a niche market for now and entrepreneurs are holding back their investments until the frontrunners 'pull the chestnuts out of the fire'. The right scale can break this. Our suggestion is to launch the system change by starting with a number of ambitious projects within a few sectors. Make sure that stagnation and obstacles are known, and research where and how positive impact is possible within the supply chain. Make sure that incentives for participating organisations are visible (e.g. financial or innovative incentives). Within these projects it will be necessary to take some risks, and one individual player cannot take this risk alone.

"It will remain a problem as long as primary materials are more inexpensive than secondary materials. The profound cause is that the system does not account for externalities in current pricing models. A limited profit-loss model overestimates the profitability of linear business models and underestimates circular ones," says Martijn Lopez Cardozo (CEO Black Bear).

JUST DO IT

Think about the consequences before the start: a wise approach that usually takes some time to research, plan and subsequently carry out the plan. In current times this seems insufficient. Results of research are not sufficient to determine the right course, due to the volatility of change, systemic nature of issues and many existing, and even opposed, interests. This causes an 'analysis paralysis': the paralysing effect of not (entirely) overlooking the situation. As a result initiatives are not handled as fast as hoped. It is important to create an environment where the goal remains stable, while the road to get there is not.

VALUE CHAIN COLLABORATION

If you decide to start, collaborate with other interested parties. Value chain collaboration is complex. It is difficult to overlook the value chain and how to determine the roles and responsibilities of individual organisations. It is not always clear whether choices will have a positive or negative impact on other parties within the value chain. The circular economy strives to create win-win situations within a

COLLABORATE

Van Houtum is an organisation with an inspiring history regarding circular entrepreneurship. In 2014 the company wanted to produce hygienic paper made of old juice cartons in its factory in Limburg (NL). It was technically possible to do, but it was challenging to ensure an appropriate amount of old juice cartons as input for the production process. The organisation was occupied for almost two years in making sure the business case was positive. Van Houtem worked together with the juice carton association, Suez and local and national governments to get access to all the juice cartons collected in the Netherlands. Value chain collaboration requires change in and between organisations. Sometimes it commences with one player in the chain, but players 'outside' or 'above' the chain may also have an important role to play. For example, the Friesland Campina co-operative covers a larger part of the chain. But ports, financial institutions or philanthropic organisations could also be the initiators of value chain collaboration.

value chain: production and use of products and services should be considered a mutual challenge. A value chain that strives for maximum value retention stimulates long-term collaboration instead of short-term gains. Value chain collaboration demands an integral approach. Therefore, organisations with a circular business model face challenging situations when working together with linear organisations.

INNOVATIVE WAYS TO INNOVATE

Design Thinking, Lean Startup and Permanent Beta show us new innovation approaches: 'learning by doing'. These approaches aim to collaborate and launch pilot projects as soon as possible. Develop and scale while the pilot is still running. In most cases, frontrunners use these approaches to innovate.

It helps to create a physical environment for innovation where input is more important than output. Innovation needs space and time to develop and flourish in a creative way—a place where there is enough focus on value chains and impact. This requires a budget that does not depend on time-to-market, but trust that outcomes will be valuable.

Mariana Mazzucato, author of The Entrepreneurial State, explains that her research has shown that countries who manage innovation through 'input' instead of 'output' have a higher return on investment. The Finnish Sitra Innovation Fund is a good example.

> "The transition towards a circular economy should be seen in a less technocratic light. Collective economic decision-making and processes are the most necessary changes at this moment. The transition we are facing is progress in civilisation: away from the zero sum game and towards value development for all." Nynke Schaaf (Nederland Kantelt) enlarges the discussion.

Creating a circular product or service requires collaborative design with organisations within the value chain and relevant disrupters outside the value chain. This process is often more difficult than it seems. In this open innovation track we collaborate in different stages with an ecosystem of partners and disrupters to create a circular solution at scale. We start small defining the right ecosystem and collaborative approach, and then create a prototype before actually scaling up to pilot projects. Our public launch is underpinned by a large-scale go-to-market strategy

PRAGMATIC AND PROGRAMMATIC APPROACH

Organisations should get access to knowledge and innovation centres with specialists in the area of Design Thinking, open innovation and value chain collaboration. These are resources they would normally not invest in themselves. Combining existing knowledge, insights and practical challenges with innovations is key to creating an optimal learning curve. Unfortunately, this is not yet widely incorporated into ways of working. The government has a role as launching customer of pilot projects and knowledge institutions contribute by sharing knowledge.

Even an extensive project cannot achieve a circular economy within the sector. A combination of projects that can learn and develop together, with bigger market demand and substantial size to remove barriers, might do so. This combination of projects should be governed within a programme structure. A programme has the advantage of knowledge sharing and, given the longer timeframe, also has opportunities to resolve common problems for all projects at once.

A circular building programme was launched recently to accelerate

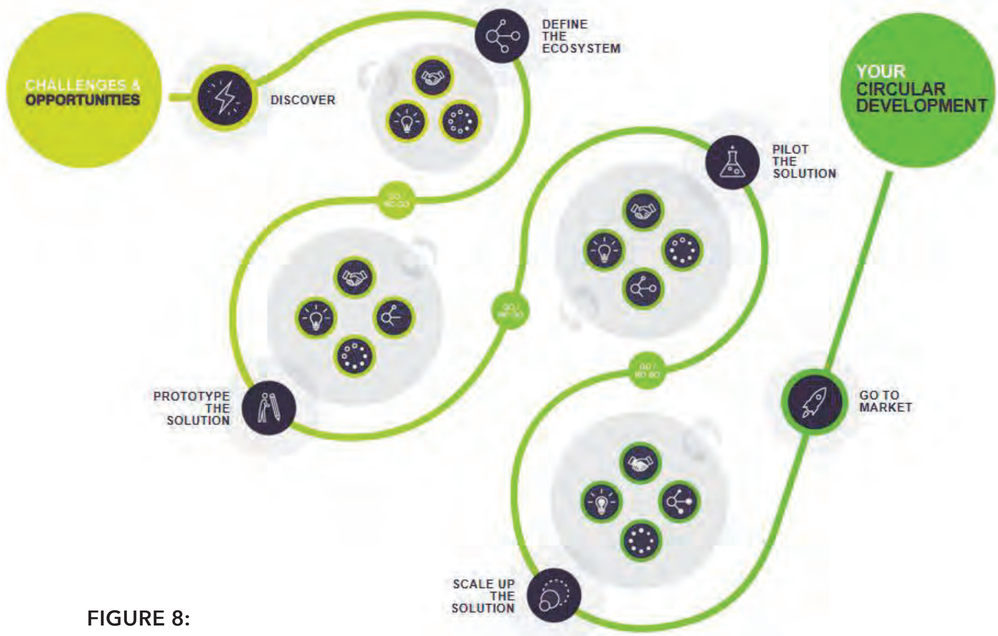


FIGURE 8:
OPEN INNOVATION TRACK

Creating a circular product or service requires collaborative design with organisations within the value chain and relevant disrupters outside the value chain. This process is often more difficult than it seems. In this open innovation track we collaborate in different stages with an ecosystem of partners and disrupters to create a circular solution at scale. We start small defining the right ecosystem and collaborative approach, and then create a prototype before actually scaling up to pilot projects. Our public launch is underpinned by a large-scale go-to-market strategy

a breakthrough within the construction sector. Construction waste accounts for 25-30 per cent of total EU waste. The construction sector in the Netherlands accounts for 40 per cent of total material use. This sector occupies a significant share of the Dutch economy. The Amsterdam region will build 250,000 new houses and large infrastructure and utility projects by 2040. Organisations like Schiphol Airport in the same region have ambitions to develop a circular terminal, and the Port of Amsterdam has a strategic focus on renewables and circular.

The building programme has a pragmatic project approach, and sets high standards for circular construction, i.e. high-value, reusable, healthy and sustainable materials and components for all buildings. Cradle-to-cradle will be used as a principle during the construction phase, and buildings should have a positive environmental impact during the phase of use. The programme focuses on various projects that can contribute to practical evidence to motivate adjustments in legislation. For example, there are several initiatives aiming to create material passports. Yet there is no standard available. This missing common understanding impedes organisations from discussing the future value of components. Working together in a programme could encourage a whole sector to embrace one standard material passport, a typical development that cannot be achieved by a single organisation but only by collaboration.

FINANCING EXPERIMENTS

One way to stimulate trust and collaboration is to make financial support available for projects that could lead to system change. These distinctive projects are only profitable if the entire value chain participates. These projects stimulate incentive alignment by sharing financial risks and benefits.

The financial backer plays a key role in this financing experiment, because the government is unable to take on this role. The profits of these initiatives, both financial, social and ecological, can only be achieved if the entire ecosystem participates.

It seems to be difficult to organise these experiments, because results do not depend on one company, but on an entire ecosystem. An external financial backer is able to kick-start these initiatives, because it decreases the risks for all participants. When these experiments succeed it also gives practical evidence and trust for future collaborative experiments.

PATIENT CAPITAL

Our current financial system assumes that products amortise in a fixed cycle. This dilemma can be solved once the ‘exits’, based on product life cycles are acceptable for capital providers. A circular economy implies that physical products are never fully written off to zero, because materials—or even better—components or products are still in the loop and therefore valuable. They consist of raw materials and added value (e.g. labour, energy).

A circular economy encourages value retention instead of value destruction, but in our current linear system this demands perseverance. The circular economy requires a mind shift and new ways of assessing the value of products after amortisation. Third parties filling the gap between the current financial system, the market and circular products have an important role to play. The government might play this role with a revolving fund, but financial institutions could also formalise such a fund. The residual value of real estate has potential to lead to alternative investment opportunities for major retirement funds.

A programme has the advantage of knowledge sharing and, given the longer timeframe, also has opportunities to resolve common problems for all projects at once.

One challenge will be the identification and quantification of risks that occur when financial decisions are based on different variables, such as terms, residual value and other financial constitutions. As previously mentioned in this chapter, it is preferable to combine research and practice to avoid an 'analysis paralysis'. This combination should result in the identification of both risks and opportunities. Our goal should be long-term value retention and material revaluation, which has great potential to interest financial institutions as well.

It is time to thoroughly reassess whether the financial system is still future-proof. We should question whether current long-term investments that are 'safe' and 'solid' are still safe and solid in a fast-changing economic system. Financial institutions should reassess their investment portfolios with a 'circular mindset', because it takes less value destruction into account and has the potential to lead to solid, long-term investments. After all, all materials are revolving and have the potential to become solid 'commodities' to invest in.

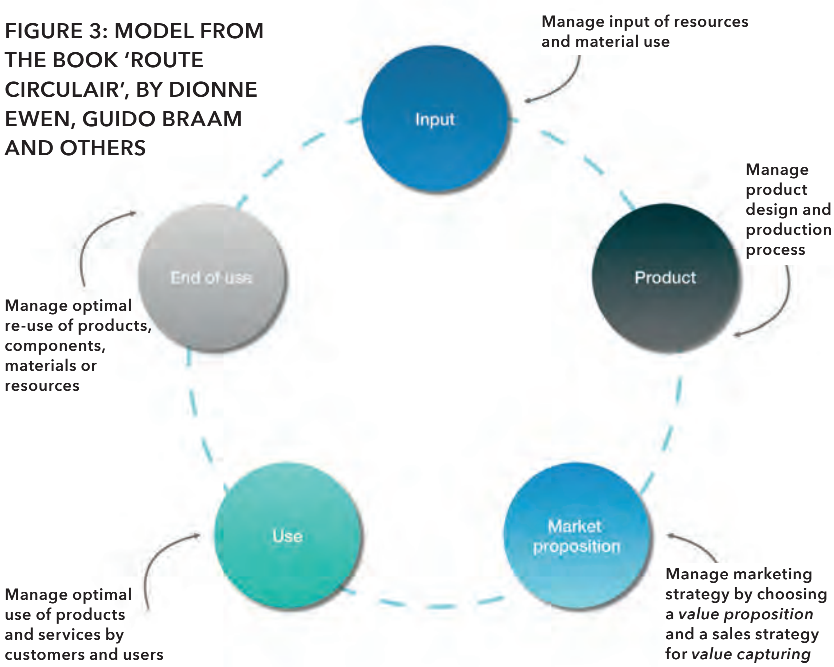
ORGANISATIONAL TRANSFORMATION

While working together in value chains, doing open innovation projects and participating in financing experiments sounds exciting and promising, there are also some internal adjustments to make within a company. First of all, when companies are serious about the circular economy, take some time to do an impact assessment. This will identify the biggest gains within the company and it provides direction for a strategic approach.

After determining the possible impact and incorporating this on a strategic level, it is time to implement the circular business model within the organisation (e.g. processes, input of materials, product design and development, market proposition, product use and product end-of-use). All concerned departments should be involved in the organisational change to create commitment, entrepreneurship and ambassadorship within the company. Which departments will face changes depends on the strategic decisions. It might impact suppliers, customers or shareholders too.

Organisational transformation is crucial if a company has circular ambitions and wants to develop professionally. All changes go through a curve of resistance, and face difficulty and failure, but they also provide a great opportunity to innovate and reduce costs while consciously choosing to walk on the path of circularity.

FIGURE 3: MODEL FROM THE BOOK 'ROUTE CIRCULAIR', BY DIONNE EWEN, GUIDO BRAAM AND OTHERS



FINALLY...

It is obvious that the concept of the circular economy is generating traction and that many lessons have already been learned on a small scale. These lessons are the basis for scaling up a system transition that makes the circular economy the ‘new normal’. The breakthrough to a circular economy requires a combination of technological solutions, adjustments in regulation and legislation, and new financial models, but it will blossom with sufficient demand. The right scale gives circular solutions the opportunity to compete with existing linear solutions.

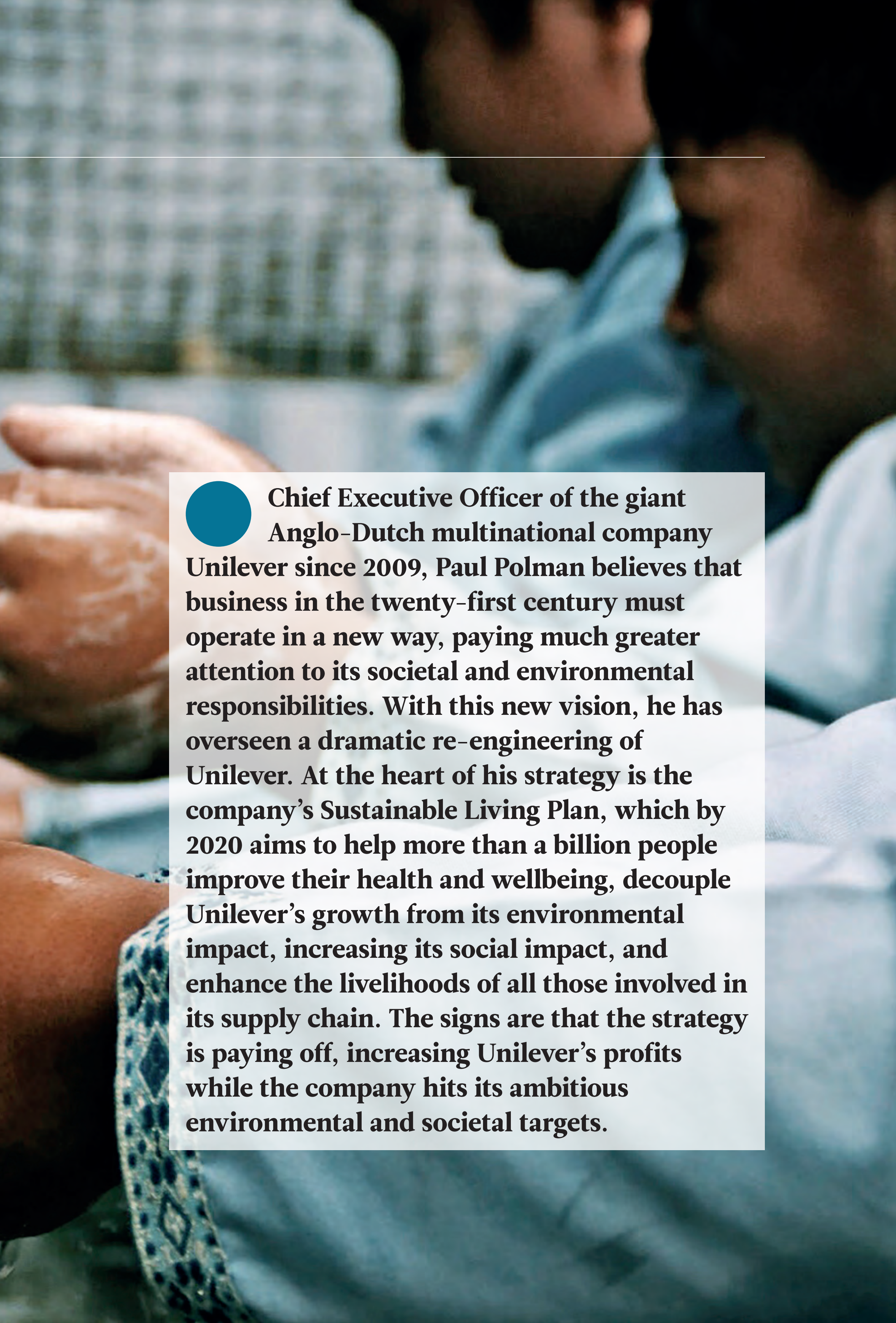
CHAPTER 3

Paul Polman: A Vision for Unilever

INTERVIEW WITH PAUL POLMAN. WRITTEN AND EDITED BY ROBERT LOW.
Interviews by The Owls team

The key factors in this case study are vision, clear concept with defined goals and subgoals, strong execution power, environmental factors and capabilities, enabling leadership

QUALITATIVE ANALYSIS: PAGE 187



Chief Executive Officer of the giant Anglo-Dutch multinational company Unilever since 2009, Paul Polman believes that business in the twenty-first century must operate in a new way, paying much greater attention to its societal and environmental responsibilities. With this new vision, he has overseen a dramatic re-engineering of Unilever. At the heart of his strategy is the company's Sustainable Living Plan, which by 2020 aims to help more than a billion people improve their health and wellbeing, decouple Unilever's growth from its environmental impact, increasing its social impact, and enhance the livelihoods of all those involved in its supply chain. The signs are that the strategy is paying off, increasing Unilever's profits while the company hits its ambitious environmental and societal targets.

INTRODUCTION

When Paul Polman was appointed Chief Executive Officer of the multinational corporation Unilever in 2009, he was the first person from outside the company to hold the job. The Anglo-Dutch giant, which has joint headquarters in London and Rotterdam and owns many of the world's most famous consumer brands, had been underperforming. The board needed to do something. Polman had the right credentials: he had worked for Unilever's great rival Procter & Gamble for 27 years, rising to be Managing Director of its United Kingdom business from 1995 to 1998, and President of Global Fabric Care from 1998 to 2001, when he became group president Europe. In 2006 he moved to Nestlé as Chief Financial Officer and Head of the Americas.

When he took up his new post on 1 January 2009, Polman was determined to change the way Unilever went about its business in the most fundamental way. During his first two years, nearly half of the company's top 100 executives either changed roles or left the company. A key emphasis was also placed on taking Unilever back to its roots. Unilever was the result of a merger in 1929 between the British soap-making firm Lever Brothers and the Dutch margarine manufacturing company Margarine Unie. Lever Brothers was founded in 1884 by William and James Lever, but the rapid development of the firm was largely the work of William Lever, who was later elevated to the peerage as Lord Leverhulme.

The corporation that Polman took charge of had morphed into a worldwide conglomerate active owning iconic brands like Domestos, Hellman's, Dove & Lux.

From the outset, Lever Brothers based its business on strong moral principles, like many set up in the Victorian era. It took good care of its employees, setting up a model village, Port Sunlight, next to its soap factory on the Wirral, near Liverpool. Here, employees lived in decent housing with many other facilities (both factory and village are still going strong, and the village is now a tourist attraction). The village was named after the product that was Lever Brothers' first breakthrough: Sunlight Soap, which was made from glycerin and vegetable oils, rather than tallow. It was a huge commercial success.

In an interview with The Owls team, Paul Polman took up the story: "It was a revolution then because for the first time you had individually wrapped and branded soap bars. The quality was guaranteed. Lever guaranteed your money back if you found a defect. But more importantly, it was driven by a firm belief from Lever that it could help to attack the issues of poor hygiene and sanitation. At that time, many babies wouldn't make it past year one. Lever saw toilet soap as a very cheap and good solution.

The man was driven. So that spirit of innovation, helping consumers and doing well by doing good, was in the company from its origins. Lever was absolutely ahead of his time and ahead of his contemporaries by the way in which he approached business and the philosophy of business."

Lever's socially enlightened approach was a key factor in Lever Brothers becoming one of Britain's most successful companies. It also expanded abroad, to the United States and throughout Europe, devising new products that rapidly became household names, such as Lifebuoy soap and the Vim and Lux detergents. By the time it amalgamated with Margarine Unie it employed 250,000 people. The corporation that Polman took charge of in 2009 had morphed into a worldwide conglomerate active in over 190 countries and focusing on soap and detergents, food, refreshments and personal hygiene and bodycare, owning iconic brands like Domestos, Hellman's, Knorr, Lipton, Dove, Lux, Marmite and many more.

VISION AND CONCEPT

Polman's vision for Unilever was rooted in the company's history. William Lever had always seen Lever Brothers as much more than a vehicle for making money for himself: he saw no trade-off between seeking to make a profit and seeking to improve society. Its products helped to improve public health and hygiene, and the company treated its employees with dignity and respect. After it became

Unilever and grew into a multinational corporation, it continued to make everyday products and to treat its employees well. But when Polman took over, he decided to refashion Unilever so that social responsibility moved from an important facet of the company to become its driving force. He had always seen business as needing to play an important role in the development of a more just and equal society.

At the beginning of the twenty-first century, other factors had to be taken into account: climate change, globalisation, population growth, scarcer natural resources, greater individual wealth, an expanding middle class in both the developed and developing worlds, more informed and demanding customers, and more active shareholders.

An important response popular at the time to address this combination of factors was the philosophy of "frugal innovation", defined as the ability to do more with less, creating increased business and social value while minimising the use of ever-diminishing resources. One way of doing so is to strip non-essential and unnecessary items out of everyday products, such as cars and mobile telephones, to make them cheaper and more available to the less affluent and to the ecologically aware.

Paul Polman showed his commitment to this philosophy by writing the Foreword to the book *Frugal Innovation: How To Do Better With Less*, written by two pioneers of the concept, Navi Radjou and Jaideep Prabhu, and published in 2015 by *The Economist* and Profile Books, London. He wrote: "The insatiable demand for ever higher quality products will continue to rise while at the same time the availability of the resources needed to satisfy that demand will remain constrained. Reconciling this apparent conflict is rapidly emerging as one of the biggest business challenges of our age."

He concluded: "By combining the frugal ingenuity of developing nations with the advanced R&D [research and development] capabilities of advanced economies, companies can create high-quality products and services that are affordable, sustainable and benefit humanity."

In 2010, Unilever unveiled the new concept through which it would apply Polman's vision: its Sustainable Living Plan, which would be applied to every aspect of the company's operations, from top to bottom. Launching the plan, Polman summarised its ambitions: "We have to develop new ways of doing business which will increase the positive social benefits arising from Unilever's activities while at the same time reducing our environmental impacts. We want to be a sustainable business in every sense of the word." But, he added, "We do not believe there is a conflict between sustainability and profitable growth."

In 2010, Unilever unveiled the new concept through which it would apply Polman's vision: its Sustainable Living Plan, applied to every aspect of the company's operations.

He outlined vision, strategy and targets: "Our vision is to create a better future in which people can improve their quality of life without increasing their environmental footprint. Our strategy is to increase our social impacts by ensuring that our products meet the needs of people everywhere for balanced nutrition, good hygiene and the confidence which comes from having clean clothes and good skin.

"We recognise that, to live within the natural limits of the planet, we have to decouple growth from environmental impact. This starts with our own operations. We now send zero waste to landfill across our entire global factory network, cut CO2 from energy by 47% per tonne of production in our operations, many of our factories run on renewable energy and we'll be carbon positive by 2030.

"However, our impact goes beyond our factory gates. The sustainable sourcing of raw materials and the use of our products by the consumer at home have a far larger footprint. That's why our plan is designed to reduce our impacts across the whole lifecycle of our products. Innovation and technology will be the key to achieving these reductions."

Polman announced three hugely ambitious targets as a part of the USLP: to help more than a billion people take action to improve their health and wellbeing by 2020; to decouple Unilever's growth from its environmental impact by 2030, achieving absolute reductions across the product lifecycle and halving its environmental footprint; and enhancing the livelihoods of "hundreds of thousands" of people involved in its supply chain by 2020.

Polman himself has always had a strong personal moral compass, stemming from his upbringing as one of the six children of a Catholic family in Enschede, Netherlands. As a teenager he considered becoming a priest and then a doctor before deciding on a business career. Just as importantly, he recognised that in the first decades of the twenty-first century a growing number of customers, both actual and potential, were becoming more concerned about the quality of life than mere consumerism and the pursuit of material things, and buying into the notion of sustainability.

Polman told us: "Consumers are asking for it and citizens are asking for it. The circular economy and issues like climate change are becoming more and more relevant. People want to have food that is more natural or organic. People are moving from a concept of 'my world' to 'our world'. Millennials are more purpose-driven." That also applies to Unilever's own staff. "We have no problem attracting millennials: about 50 per cent of the people who work for Unilever are millennials. And they want to make a difference in life. There is absolutely no question about it: they are an engine for change."

The other key element making sustainability possible is technology. "Technology has developed very rapidly and is opening up new possibilities. Electric vehicles are one example: very soon electric vehicles will be more popular than internal combustion engines.

At Unilever we find that moving to zero waste in our factories and shifting to renewable energy makes economic sense. Increasingly data shows that companies operating more responsibly tend to perform better because they reflect the needs of society better. They probably set more realistic targets, they make more data public, which lowers the cost of capital, and so on.

"Implementing our Unilever Sustainable Living Plan is not that difficult, as long as we are all aligned on the direction we need to take and why it needs to be done. But what you need to focus on is the speed and skill of implementation.

"It is really the energy that comes from people in terms of having a meaning, having a purpose, that drives innovation."

"What we find is that our brands with a social purpose are an enormous engine for innovation. Our Sustainable Living Brands, as we call them, grow 70 per cent faster than the rest of our portfolio. An example is in water-scarce regions, such as parts of Africa, where rinsing out the soap suds from laundry accounts for around 70 per cent of domestic water use.

With our Sunlight soap brand we developed a new anti-foam molecule called SmartFoam which breaks down suds more quickly. This reduces the amount of water needed, as well as speeding up the process of rinsing. People prefer that product, they see the multiple benefits, and the brand grows by addressing a societal problem.

"Take Domestos, or Domex as it is called in India, our toilet-cleaning product. If you just sell toilet-cleaning products, that is not a very exciting thing. But if you address open defecation, suddenly you start to innovate quite differently. For example, we have just launched the first small powder sachet, Domex Toilet Powder. The brand provides an affordable toilet-cleaning solution to consumers. And not surprisingly the brand is growing.

"Or take Lifebuoy soap, with its mission to help a child reach the age of five. So far, we have reached 426 million people with handwashing behaviour-change programmes in developing countries. We do that because we want to help enhance people's wellbeing, and at the same time the brand is growing very well.

"But it also works in developed markets. Our compressed deodorant technology is a good example. Scientists at our R&D facility in Leeds, northern England, reengineered the spray system of our aerosols to reduce the flow rate. Using 50 per cent less propellant gas and 25 per cent less aluminum in the packaging, we have reduced the carbon footprint per can by about 25 per cent. This also means that more cans can be transported at a time, resulting in a 35 per cent reduction in the number of lorries on the road. We felt so strongly about it that we did not patent the technology to encourage wider industry use."

How does the need for innovation fit into the broad framework of the Sustainable Living Plan?

"It starts as a broad purpose that aligns everybody in whichever direction you want to take," Polman replied. "We have translated the Unilever Sustainable Living Plan into what we call a Compass, so everybody has the same true North. And in that Compass we look at winning with innovation, we look at winning in the marketplace, winning with people and winning with continuous improvement, which we call efficiencies. But we want innovation running through all of these areas. We provide the tools and we explain to people what sort of objectives there are. Anything we do now in our innovation programme has to go through what we call the sustainability phenomenon. It has to be in line with the Unilever Sustainable Living Plan.

"The packaging is up to 30% lighter and allows us to get 40% more product on a pallet, which means we could reduce the number of trucks on the road by 800 per year."

"It is really the energy that comes from people in terms of having a meaning, having a purpose, having a contribution to life, that drives innovation. We spend one billion euros on R&D, we have 7,500 R&D professionals and 20,000 patents. But the global population is 7.6 billion. So, you need to have an open innovation system where you work together with everyone else to expand your consumer base and achieve wider success. For example, our top 15 suppliers are involved in about 50 per cent of our innovations.

"We have Unilever Ventures, our venture capital and private equity arm which invests in young and innovative companies to help accelerate their growth. Then there is our Unilever Foundry, where we help start-ups and social entrepreneurs scale up their ideas for greater positive impact. Unilever Foundry also enables our brands to collaborate and experiment with evolving technologies. And then our Mergers and Acquisitions strategy is geared to finding innovative brands like air purification company Blueair, or Seventh Generation, a cleaning products company in the US that thinks seven generations ahead.

"Our M&A activity is for us an incubator for innovations as well. We are trying to find smaller companies and then make them bigger by leveraging our size and scale. But the main driver is the passion of our people. It cannot come from anywhere else. It is our people who go out there and want to make this a better world. They stay connected, they see what is needed. They see the challenges that consumers struggle with. It boils down to the people and their purpose.

STRATEGY

"We form a vision about the future. We look at trends. Planetary boundaries might be a trend. Urbanisation might be a trend. Single households might be a trend. It's crucial to know where this world is going. That includes the geopolitical environment, the rise of technology, e-commerce, and so on. We form a picture of the future as it might be five or ten years on.

"We have defined the categories that we operate in: Food & Refreshments, Home Care and Beauty & Personal Care. These categories define their strategies: where do they want to play, what do they want to be in? They look globally, they look at consumer trends. Based on these findings we have discussions with each of the categories, internalise that, the categories define their strategies, and then we deliver it.

"We have divided our global business into eight clusters. Within them we have what we call country category business teams (CCBTs). For example, they might be Personal Care in France, or Home Care in the United States. These units are fully responsible for making these innovations come alive in the regions that they are responsible for. We see the input from the categories as a starting point, and they test and implement them. This is important to strike the right balance between global efficiency and local development."

How can Unilever develop local innovations into products that will sell on a global scale?

"Most of the innovations that take place are usually invented close to the market through trial and error. In the UK we recently launched Persil Powergems, a significant innovation. Powergems are a completely new laundry format that use 100 per cent active ingredients and are twice as concentrated as powder. The packaging is up to 30 per cent lighter and allows us to get 40 per cent more product on a pallet, which means we could reduce the number of trucks on the road by 800 per year, cutting greenhouse gas emissions by 75 tonnes plus a million miles less travelled.

"The formulation is also an industry first, in that it removes the requirement for mined materials, therefore reducing non-renewable ingredients. That is typically an innovation that has come from a technology breakthrough which we developed centrally and will scale up as much as we can. However, most of our innovations are developed in the market. In India, for example, 63 million people lack access to clean drinking water, so we invented a water purification brand called Pureit, now with about 100 million customers.

"We also bought an air purification company called Blueair, founded by Bengt Rittri 20 years ago to start a clean air revolution by bringing people the world's best air purifiers. Bengt spent 10 or 15 years refining the model. We were fortunate enough to associate ourselves with that company. The brand is now going into more than 60 countries. Many innovations start in a local market and then move outwards.

CULTURE

"We are trying to create a culture where everybody can rise to their full potential, where there is open discussion, where our job in the leadership team is really to make everybody else successful. I always say, even publicly, that as CEO: my finance manager knows more about finance, my category presidents know more about their categories, and people that run the country category business teams know more about their business in their countries. My job is to make other people successful.

That is what we very much like to do at the senior level, and then create a culture around our values, values of respect, integrity, pioneering, responsibility, which are very important to us, that we try to make come alive.

"Many companies restructure because they don't want to attack the harder rights versus the easier wrongs. They postpone the top issues for their successors. When time is short, the fundamental decisions on how we should run businesses and how we should contribute to society, are not being made.

EXTERNAL FACTORS

"The unfortunate thing is that since the financial crisis of 2007-2008 so much money has been put into the global economy that in many places interest rates are zero or negative. So, we have six or seven times the money supply that the global economy needs and that causes chasing returns. Companies like ours have a longer-term value creation model and if you think longer-term, you also automatically run the business more sustainably.

"Now the longer-term model does not mean that you optimise your short-term returns all the time. Since 2009, Unilever's shareholder return has been close to 300 per cent. But it's about finding the right balance and being able to deliver short and long-term value for a multitude of stakeholders.

Unilever works very hard to get shareholders that are aligned with our strategy—70 per cent of our shareholders have been with us seven years or more. "Kraft Heinz [which launched a bid for Unilever in 2017] went away after two days. So I don't know what the outcome would have been, it is all speculation.

Our Board has made very clear that we continue to be committed to our long-term sustainable value creation model. Realistically we have to be sure that we keep the balance right between the short-term and the long-term. What we are proving in Unilever is that we can have a long-term model that ultimately is good for society but also good for the shareholders. Increasingly we are demonstrating that the Unilever Sustainable Living Plan is actually an engine for growth and success.

HUMAN FACTORS

"You cannot be sustainable as a company if you do not have a sustainable workforce. Physical wellbeing is the starting point. Then you have emotional wellbeing, mental wellbeing and spiritual wellbeing (what we call purpose). These dimensions are important, and we spend a lot of time and resource on supporting our employees.

One of the reasons why women represent 47 per cent of our managerial workforce—with 45 per cent women on our non-executive Board—is because we provide the environment for everybody to apply their potential, such as flexible working programmes and strong employee benefits.

"Most important is what I would call spiritual wellbeing, or purpose, which is really what gives people the energy to get out of bed and come to work. More and more people want to be a part of that. Mental wellbeing is also critical, especially at a time when one in four people will experience a mental health problem each year. Every hour in the UK a man commits suicide—that's why, through Lynx (known in some countries as Axe), our personal care brand for men, we are supporters of the Heads Together programme that Their Royal Highnesses The Duke and Duchess of Cambridge and The Duke of Sussex are championing.

LEADERSHIP DO'S AND DON'TS

"If the tone is not set from the top, you will not be able to achieve anything. The shadow a leader casts is critical. For example, through the systems and enabling framework you put in place.

"Let's take the World Business Council for Sustainable Development [a CEO-led organisation advocating for sustainable business], where we are looking at enrolling other progressive companies to move the global agenda forward. If the CEO does not buy into it, then it does not make any sense to keep going. Or in the UK, for example, through the Blueprint for Better Business, which aims to help companies to bring a purpose to life—if the CEO isn't engaged, it won't work. It starts with the CEO.

"Then you have to set up a focused programme that is relevant to your business, with clear targets and dates so that people know what you're measuring and what is successful. First and foremost, you need to implement that into your company. We took one year internally setting up the Unilever Sustainable Living Plan before we launched it, because if your own employees do not buy into it, then you will never get external stakeholders to buy into it. That is why Unilever said we are going reach zero waste across our global factory network. We are moving to green energy. We have committed to 100 per cent recyclable packaging by 2025. We are working with smallholder farmers to improve their livelihoods. We are ensuring that women are represented and championed right across the value chain. We were the first company to issue a detailed human rights report built on the UN Guiding Principles on Business and Human Rights framework. Your own employees need to see that you walk the talk and that you get things in order internally.

"The next step is to leverage your value chain and involve your suppliers across your value chain for more impact. The final step is the drive transformative change—or systemic change—to transform the entire industry. For example, tackling deforestation, ensuring labour rights and fighting inequality. These are the efforts that will deliver impactful and lasting change to help build a better world.

IMPLEMENTING CHANGE

"We try to bring the outside in by really putting consumers at the heart of everything we do. Broadly speaking we are trying to bring everything back to our purpose. The stronger your sense of purpose, the easier all this can be achieved.

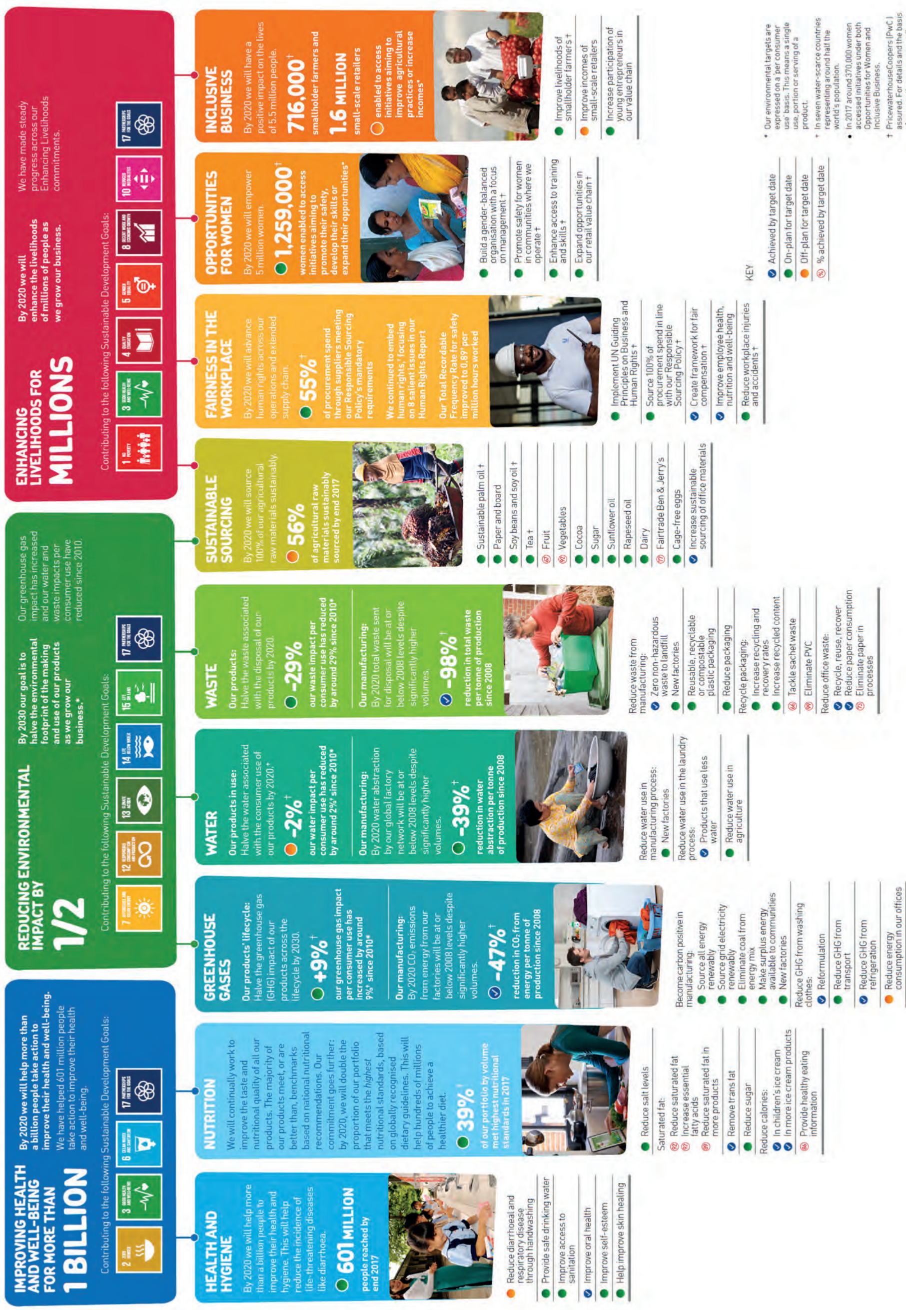
"At Unilever we want to provide for everyone, including the under-served. As I said, you bring the outside in. I do a lot of talks outside the company, and when newspapers report on it employees actually read it. It's important to visit the markets and spend time with employees, partners and consumers. This doesn't come naturally to everyone but that's a normal part of managing an organisation. It is part of our job."

RESULTS

Unilever publishes an annual progress report on its Sustainable Living Plan (USLP). Its most recent report shows that the USLP has helped 601 million people to improve their health and wellbeing. It had cut CO2 from its energy by 47% per tonne of production in their operations and reduced waste disposal by 98 per cent per tonne of production since 2008. As for consumers, Unilever calculated waste disposal associated with its products was down by about 29 per cent since 2010. By the end of 2017 Unilever had enabled 1,259,000 women to "access initiatives designed to promote their safety, develop their skills or expand their opportunities".

In 2016, Unilever announced that it will be carbon positive by 2030. In 2017 Unilever announced a new target: to ensure that all its plastic packaging is fully reusable, recyclable or compostable by 2025. And interestingly, Unilever's 22 Sustainable Living Brands (such as Lifebuoy, Dove, Hellmann's and Lipton) are growing 70 per cent faster than other brands and account for 46 per cent of the company's total growth. Unilever reported a net profit of €5.4 billion for 2017. In the eight years to 2017 Unilever's total shareholder return had risen by 300 per cent, vindicating Paul Polman's strategy and appearing to support his belief that companies—big or small—can do well by doing good.

UNILEVER SUSTAINABLE LIVING PLAN: PROGRESS IN 2017



CHAPTER 4

A Leadership Prescription for Healthcare

BY ANTONY BELL, DENIS A. CORTESE MD, HENK VAN DEN BREEMEN, NATALIE LANDMAN, AB KLINK AND DIK HERMANS

Edited by Robert Low

The key factors in this case study are innovative drive, leadership, shared vision, shared environment, operational excellence based on a strong concept

QUALITATIVE ANALYSIS: PAGE 188

The need for change and great leadership in healthcare is not unique to the US—all healthcare systems around the world are facing the challenges of rising costs and variability in the quality of healthcare services provided. A 2010 report by the OECD concluded that there is no perfect healthcare system, and that all countries have the opportunity to improve the value of care they provide. We believe that great leadership is critical to continue to adapt and innovate in the increasingly complex and global healthcare environment. In this chapter, we describe what great leadership is and provide practical advice for those aiming to improve the value of or access to healthcare around the world.

HEALTH CARE AS
AN ORCHESTRA –
SEE PAGE 80

INTRODUCTION

Healthcare in the US and in many other countries is in trouble—serious trouble. From rapidly escalating costs that threaten the financial viability of individual families (and the country as a whole) to uneven access and variable quality that undermine the health of its citizens, healthcare in the US is in crisis, like in many other countries.[1] But every crisis comes with an opportunity, and in this case, the opportunity lies in resetting and reimagining what type of healthcare we want for ourselves and our families—because sooner or later we all become patients and the system we are trying to fix is the very one in which we will find ourselves.

So how did we get here? And what can we do to solve what appears to be an overwhelming and incurable problem? While healthcare is complex (and confusing), there are a number of discernable root causes that have resulted in the (on average) low-value system we see today in the US.

First, the US and many other countries lack a **SHARED VISION** for healthcare, one that puts the patient firmly in the center. In its absence, current system stakeholders work toward maximising their own industry sector, instead of working collaboratively to optimise the functioning of the system for the benefit of the patient. There is also little, if any, transparency within the entire healthcare system in terms of patient outcomes, safety, service, pricing, and insurance coverage. Lacking a robust national health IT infrastructure, one characterised by interoperability, rapid and seamless information exchanges, "the system does not know what the system knows."

Thus, there is no **SHARED REALITY**, no system learning, and consequently limited opportunities for system improvement and patient/provider empowerment. It makes our system not only financially wasteful, but also carries significant implications for the quality of care we receive as patients.

For this chapter we are greatly indebted to Antony Bell and Denis A. Cortese, MD who gave us permission to use parts of their remarkable book *Rescuing Healthcare: A Leadership Prescription to Make Healthcare What We Have All Want It to Be*, which has been received with great respect worldwide.

Further compounding the problem are the incentives created by the financing and payment mechanisms embedded into the current healthcare system. Unlike the "cradle-to-grave" health insurance coverage that characterises many developed nations and creates incentives to invest in and manage the health of the overall population, health insurance in the US is "in series". Private payers typically cover the younger employed population, while the government provides coverage for the elderly, the disabled, and the disadvantaged. Given that the majority of healthcare expenditures occur in the 55+ population, there are few incentives for private US payers to promote high-value care by investing in prevention and/or new models of care.

Although universal healthcare coverage remains a goal for the US (about 9 per cent uninsured at the time of writing), Consumers with insurance coverage are largely isolated from true costs of healthcare. Not surprisingly, patients have few incentives to limit the use of healthcare services and providers are more than happy to oblige. Despite recent strides toward pay for value, the majority of US healthcare providers are still paid separately in a fee-for-service model, with limited ties to the quality of care provided or incentives for providing preventative care. This fragmented and primarily volume-based payment system is a major contributor to overuse of medical services and poorly coordinated patient care.

The observation that our healthcare system is in serious need of improvement is not new, but more often than not the discussion and proposed solutions focus primarily on the best way to provide universal health insurance coverage. The problem is that having insurance does not guarantee access to healthcare services (an issue that rings true for both publicly and privately insured citizens) and access does not equal high-value care.

The majority of the US population is already covered either through their employer or by federal and state government programmes, yet the care received is of highly variable quality and provided at very high costs. So, while "insurance for all" is absolutely required for a well-functioning system, on its own, it is not sufficient to resolve the inefficiencies that plague the US healthcare system.

HEALTHCARE AS AN ORCHESTRA[2]

The challenge for leadership in healthcare is to play as an orchestra—to see and hear the whole, not just our own section—to find common ground and common cause. And the challenge is daunting:

- The variation in healthcare delivery is huge.
- Without a clear vision and a clear sense of purpose, priorities have become confused and misplaced.
- The payment system rewards providers when the patients are sick, rather than for keeping them healthy.
- And there are a lot of players, who operate much like isolated islands, warding off the encroachments of every other island in the healthcare delivery system.

And yet we need to find a way for the orchestra to play the same music.

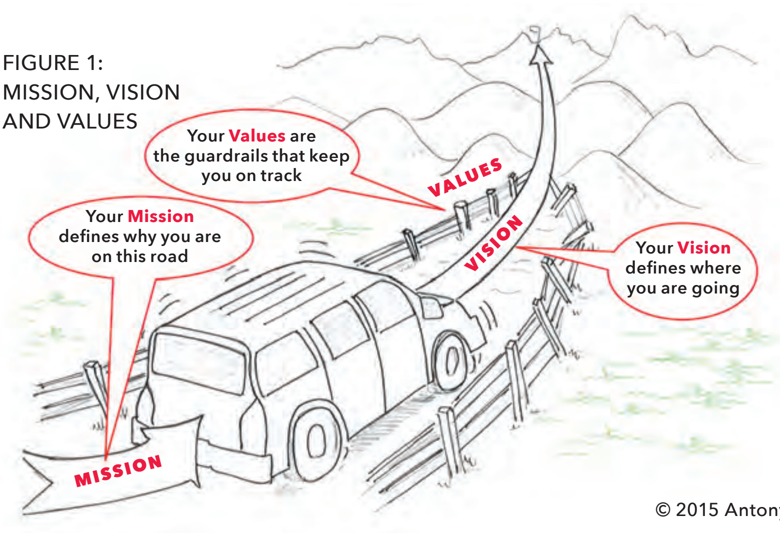
VISION

Before we can agree on the strategy and tactics needed to improve upon the current system of healthcare delivery, we need to define what we want that improved system to look like—we need a vision. And that vision must be shared by all the stakeholders in the healthcare ecosystem, as we have already alluded to the importance of a **SHARED VISION** (and specifically the lack thereof) in bringing about the current state of the healthcare system. Vision is powerful and a shared vision even more so. As the late Stephen Covey once said, "It's much easier to say 'no' when you have a higher 'yes'." As stakeholders take ownership of the vision, they collectively work to sustain that vision with passion, discipline, courage, persistence, and creativity, and as they do so, their efforts become contagious. So, what do we want from the healthcare system of the future? We would frame that vision as **HIGH-QUALITY, AFFORDABLE HEALTHCARE FOR ALL**.

MISSION

Not only are we lacking a shared vision in healthcare, but at times it seems we have largely forgotten the system's purpose or *raison d'être*. In the absence of an overarching purpose (and vision), the system has degenerated into a self-centered pursuit of the personal priorities of all

FIGURE 1:
MISSION, VISION
AND VALUES



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the other stakeholders. Perhaps not surprisingly, without such guideposts to help drive decision-making, system reform efforts to date have resulted in limited improvement in the value of care patients receive. For example, despite allusions to value, the majority of providers continue to function in silos, while government efforts are focused primarily on ways to reduce healthcare spending. We believe that the purpose or mission of the healthcare delivery system is to provide value to the patient, where value is defined as high quality (outcomes, safety, service) at an affordable cost.

CONCEPT

Putting the patient (rather than the delivery system or any other stakeholder group) at the center will require a profound mindset shift across the industry. And while the task may seem gargantuan, it is not hopeless. **GREAT LEADERSHIP** tackles big problems, and with a critical mass of the right kind of leaders exercising the right kind of leadership in the right context, the system can be turned around.

Leadership matters. Whatever the challenge, endeavor, initiative, enterprise, time, age, field, context, or culture, leadership is the critical variable that can often be viewed as the difference between success and failure. Leadership is inevitably linked to the outcome of any situation. It is not the only variable, but it is the critical one.

Leadership matters because it is contagious: all leadership—good or bad—is contagious. It reproduces after its own kind. Lead with determination and dedication, and your team will follow with those same qualities. Provide scattered and undefined leadership, and your team will act in the same way. Your team doesn't just look to you to lead; it looks to how you lead. *It matters because it is timeless*: it is not bound by the life of the leader who exercises it.

Whatever the challenge, initiative, enterprise, time, age, field, or culture, leadership is the critical variable between success and failure.

We enjoy political freedoms today because over two hundred years ago, the founders of the United States set up a system of government to ensure the preservation of these liberties beyond their own lifetimes.

Today, we still reap the benefits of their leadership. But in reality, we owe our freedoms not just to them, but also to those who came before them, because the leaders who preceded them influenced their leadership—a trickle-down effect of profound proportions. *It matters to you personally*: great careers are built on great leadership, not great expertise.

A successful career is by definition a leadership career, even if you came into the marketplace with a specific functional expertise—whether in accounting, finance, law, marketing, engineering, or, of course, medicine. And personally, great leadership often takes form in thoughtful and meaningful parenting, where you educate and nurture the next generation of leaders into smart and compassionate young men and women.

Great leadership is difficult and complex, given the "VUCA" world (the military acronym for "volatile, uncertain, complex, and ambiguous") we live in. The early 1980s saw us experience a shift that thrust us decisively into a global economy driven by information technology. That shift had a huge impact on leadership because it changed the conditions in which leaders operated.

It changed these conditions in at least five ways that still impact us all today:

1 *The expectations placed on leaders have never been as high.* The higher expectations require that leaders have to learn quicker, perform sooner, and understand that tolerance for failure is lower.

2 *The scope of responsibility has never been as broad*, both geographically and functionally.

3 *The scrutiny has never been as intense*, driven both by widespread public interest and by intense political debate.

4 *The structures of organisations have never been as complex.* The demands for growth mean that at some point organisations can no longer satisfy their constituencies or stakeholders with organic growth, and so they opt for mergers, acquisitions, joint ventures, and partnerships that may bring growth, but that also create extraordinarily complex leadership environments.

5 *The pace of technological change and innovation creates a backdrop that can drastically change the competitive landscape*, a huge challenge for every leader, no matter what sector they lead in, but particularly so in healthcare, where the pace of change in medical technology far outstrips the pace of change in medical delivery.

Great leadership is also achievable, especially when one is armed with a comprehensive framework that pulls together the various facets and dimensions of leadership into a coherent whole.

STRATEGY

Healthcare systems are extraordinarily complex, but that doesn't make them impermeable to great leadership. We define great leadership as **APPLYING THE RIGHT LEADERSHIP TO THE RIGHT CONTEXT FOR THE RIGHT REASON IN THE RIGHT PLACE AT THE RIGHT TIME**. What does this look like in real life? Einstein once said that everything should be as simple as possible, and no simpler. In the spirit of Einstein, in its simplest, purest form, all leadership can be defined in terms of two fundamental concepts:

1 Character—the personal qualities that make for great leadership.

2 Competence—the leadership skills you need for the particular leadership role you are currently exercising.

If competence gets you to the table, it's character that keeps you there. Jeffrey Pfeffer (from Stanford University) argues that the reason we have seen so much corruption surface in recent years may be that the business schools gave these highly competent and gifted leaders the technical tools without giving them the moral compass to use them. They got to the table because they used the tools well, but they were dismissed because they failed to use them appropriately.

So character and competence are both important. Which would you say is more important? You would be right if you concluded that both are equally important. The essence of great leadership—and the solution to the tension between character and competence—is giving due importance to both.

PLANNING AND EXECUTION

DEFINING CHARACTER IN LEADERSHIP: As you think about character in leadership, ask yourself these questions:

- What does character in leadership look like in my particular role—as a physician, a legislator, a regulator, a hospital administrator, an insurance provider, a manufacturer for the healthcare industry—or as any other stakeholder role I may fulfill in healthcare?
- What does it mean for my immediate sphere of influence?
- Is the pursuit of character in my sphere of influence at odds with the pursuit of character for healthcare in general?

Character in leadership is about pursuing noble ends through noble means. It's not enough to pursue noble ends; it's also important to pursue them with noble means. It's not just what you pursue, but how you actually pursue them.

What do we mean by noble ends? A noble end is anything that is characterised by focusing on others, by adding value, and by representing something larger than you or your organisation. That spreads a wide net. In fact, a noble end is anything that doesn't harm the supplier or the user. For example, people in construction, the food industry, and of course healthcare are all perceived to pursue a noble end. And noble means is about pursuing these ends with integrity, **COURAGE**, self-sacrifice, and humility.

Character in leadership is important for two reasons, as outlined by Os Guinness, a seasoned observer and commentator on American society for the past thirty years. He states: *"Far from a cliché or a matter of hollow civic piety, character in leaders is important for two key reasons: Externally, character provides the point of trust that links leaders with followers. Internally, character is the part-gyroscope, part-brake that provides the leader's strongest source of bearings and restraint. In many instances the first prompting to do good and the last barrier against doing wrong are the same—character."*

DEFINING COMPETENCE IN LEADERSHIP: As you think about competence in leadership, ask yourself these questions:

- What does competence in leadership look like in my particular role—as a physician, a legislator, a regulator, a hospital administrator, a manufacturer for the healthcare industry?
- What does it mean for my immediate sphere of influence?
- Is the pursuit of competence in my sphere of influence at odds with the pursuit of competence for healthcare in general?

How do we define competence in leadership? Competence in leadership is created through an understanding of the right kind of leadership, applied appropriately to our particular leadership context, as we pursue our noble ends.

This is where much of the confusion lies, and we can dispel that confusion by thinking of competence in leadership in terms of three dimensions: Organisational, Operational and People.

The first dimension is that of **ORGANISATIONAL LEADERSHIP** and its primary functions are to:

- **CREATE** and continuously clarify a clear sense of direction (mission and vision) for the organisation/sector;
- **ALIGN** the organisation/sector and resources to that direction;
- **SELL** the vision to ensure that all stakeholders/participants embrace and buy into it.

"Enterprise without a leader," argues author Patrick Henlon, "is like a headless elephant. It may eventually get somewhere, but only by destroying everything in its path along the way." When an organisation or a sector is lacking in or has dysfunctional organisational leadership, we find operational silos, internal competition, and a highly charged political environment—a description that unfortunately fits the US healthcare system all too well.

ORGANISATIONAL LEADERSHIP SHAPES ORGANISATIONAL CULTURE: "The unique and essential function of leadership," Edgar Schein once said, "is the manipulation of culture." We may prefer the word "shaping" to "manipulation", but what he says holds true. Every organisation, population or industry sector has its own unique "personality". Culture, the term most commonly used to describe this phenomenon, captures the sum total of all the aspirations, norms, rites, rituals, values and rules that make up the environment and work style of the entity in question.

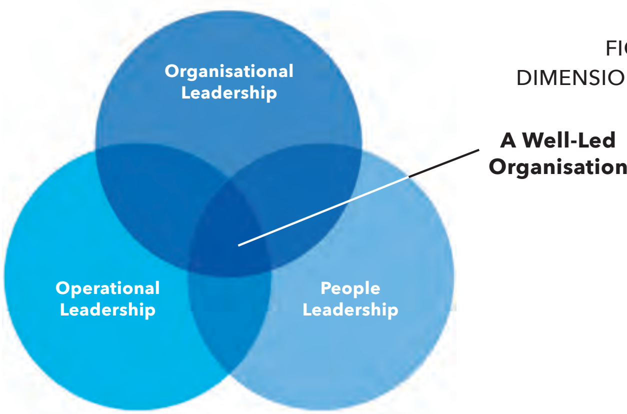


FIGURE 2: THE THREE DIMENSIONS OF LEADERSHIP

And whether or not they are aware of it, leaders are the primary agents in shaping the culture around them. After Lou Gerstner retired as CEO of IBM, he drew an interesting conclusion about culture: "I came to see in my time at IBM that culture isn't just one aspect of the game—it is the game."

Without the right organisational culture, nothing changes, and when it comes to healthcare the right culture must include such critical elements as a patient-comes-first attitude, an eagerness to learn, an openness and transparency, a desire to contribute to the body of knowledge and pass on the body of knowledge, and an atmosphere of constant improvement—all wrapped up in a deep comfort with constant change. Without these elements change will not happen. Culture matters, and leaders shape culture.

OPERATIONAL LEADERSHIP IS THE SECOND DIMENSION whose primary functions include:

- **PLANNING AND SHAPING** organisational/sector processes;
- **ORGANISING RESOURCES** (human and otherwise) around those processes;
- **MEASURING** process performance and problem-solving. Widespread duplication of effort and resources, along with high levels of frustration, are key hallmarks of dysfunctional operational leadership—a description that yet again hits close to home for the US healthcare system.

Systems thinking is at the heart of great operational leadership. Systems are about interdependence. They create linkages far stronger than we may even realize. They create interactions, sequences, and relationships. They bring together different interrelated forces so that, in one way or another, everything affects everything else.

Systems thinking as a discipline recognises the importance of these systems. Recognising their importance allows us to not only anticipate the ripple effect of every choice we make and every initiative we undertake, but also allows us to shape and direct the systems in our organisation—and in our industry—so that they reinforce rather than hinder the direction we are pursuing. That happens because leaders make it happen. W. Edwards Deming, a thought-leader in developing, applying, and teaching a systems-thinking approach to improving the effectiveness and efficiency of organisations, underscored the importance of leadership: "Institute leadership. The aim of leadership should be to help people, machines and gadgets do a better job."

Finally, **PEOPLE LEADERSHIP** concerns itself with:

- **SELECTING AND MATCHING** the right people with the right opportunities;
- **EXPLAINING AND CLARIFYING** expectations;
- **MOTIVATING AND DEVELOPING** people.

People Leadership is not about one's ability to relate well with people, important though that is, but rather about bringing out the best in the people you lead. Dysfunctional People Leadership is characterised by low morale and high turnover, and as such tends to render organisational and operational leadership less effective.

To better understand these three concepts, it's helpful to think of a ship. For the captain on the bridge, the focus needs to be *external*—watching the weather conditions, making sure it doesn't collide with another ship, that it doesn't run aground, that it avoids negative weather patterns, and most importantly, that it reaches its port of destination. That's Organisational Leadership. Now it doesn't matter how good the captain is if that ship is dead in the water because the engines aren't running or the whole crew is down with food poisoning.

The ship needs an external focus (Organisational Leadership), but it also needs an *internal* focus—and that's Operational Leadership. The engines need to be running, the cooks need to be feeding the crew, and all the other numerous jobs that make the ship run need to be well executed. All that will happen if you have good People Leadership—people working in roles they are well-suited to and well-prepared to execute.

In reality, healthcare is more like a fleet, with multiple ships of different shapes and sizes, fulfilling different functions. But they all need to be travelling in the same direction, heading for the same port of destination. Without that clarity of focus, we end up with the dysfunctional system we are now experiencing.

RESULTS

Here we highlight just two examples of organisations that found ways to deliver patient-centered, high-value care, despite the limitations and barriers that currently plague the US healthcare system. And in every case, leadership was the decisive element or the critical variable [3].

EXTENSION FOR COMMUNITY HEALTHCARE OUTCOMES (PROJECT ECHO): CHANGING THE WORLD, FAST!

Treating patients with chronic or complex conditions can be difficult, particularly in rural or underserved areas where access to specialist care is often scarce. Primary care physicians in these areas are often isolated and uncomfortable treating such conditions without the help of specialists. In response to these challenges, Dr Sanjeev Arora at the University of New Mexico (UNM) Health Sciences Center developed Project ECHO to make "specialised medical knowledge accessible wherever it is needed to save and improve people's lives".[4] What was once a system dependent upon the patient coming to the specialist to receive care (sometimes driving 250 miles each way for an appointment) soon became a system designed to take the knowledge of the specialist out to the patient.

The principal goal of Project ECHO became forced multiplication, the logarithmic expansion in capacity to deliver best-practice care to underserved populations. To accomplish its goals, Project ECHO creates virtual disease-specific learning networks that give rural primary care physicians access to professional interactions and specialists that would otherwise be unavailable.

Through weekly tele-ECHO clinics, primary care physicians throughout the state meet with specialists to review patient panels and receive on-going education specific to their patients. This co-management of cases allows primary care physicians to maintain the responsibility for patients and over time grow more independent in their ability to treat complex diseases effectively.

Since its inception in 2003, with a primary focus around improving the care of patients with Hepatitis C (HCV), the programme has been recognised nationally as a model for complex disease management. Project ECHO clinicians report greater knowledge and ability to treat HCV as a result of the programme, as well as a greater sense of professional satisfaction.

Moreover, a cohort study that compared patient outcomes from Project ECHO with those of patients treated at UNM, showed that HCV treatment is just as effective through Project ECHO as within the university setting.[5] Project ECHO has successfully expanded to multiple other conditions, including rheumatology, diabetes, chronic pain, mental health and substance use disorders, HIV/AIDS, and others. Almost 300 teams across New Mexico are now delivering specialised care through Project ECHO.

Additionally, the programme has spread to multiple other systems including the Department of Veterans' Affairs, the Department of Defense, and various university systems throughout the United States, as well as internationally to practices in 10 countries including India and Uruguay. Worldwide, 53 university hubs are connected to more than 2,400 clinics for 40 different disease areas or conditions. With its unique approach, Project ECHO significantly expands treatment capacity and reach, leading to better care for more patients.

KEY LEADERSHIP LESSONS

COMMUNICATE A CLEAR VISION AND STRATEGY. "Our vision of the ECHO team is to improve healthcare for the underserved populations all over the world—and to do it fast." This clarity of purpose allowed Dr Arora to get the project off the ground by developing institutional alignment within UNM, as well as securing the participation of several rural communities. Dr Arora and his team developed a model that not only serves the needs of the patients in their home state of New Mexico, but one that could also be reproduced around the world.

EMPOWER THE FRONT-LINE. In contrast to most telemedicine practices, Project ECHO does not focus on a one-to-one, doctor-to-patient methodology. Instead, the programme adopts a "one-to-many" concept that builds a learning system where specialists provide knowledge and support to a network of front-line healthcare providers who then directly deliver care. "The reason the ECHO model works is that it fundamentally changes the model for specialty care by de-monopolising the knowledge that is trapped inside the minds of super-specialists."[6]

ENSURE OPERATIONAL EXCELLENCE. New partners in Project ECHO undergo a one- to two-day in-person training session to become familiar with protocols and processes of the programme. This includes training providers and nurses in treatments as well the technologies used for team communication. Then, primary care teams are placed into the disease-specific learning networks for weekly meetings with UNM disease specialists as well as other primary care providers across the state. ECHO also trains other university hubs around the world by hosting three-day trainings to assist with replication of the model around the world.

MEDSTAR HOUSECALL PROGRAMME (MSHP): VALUE-BASED CARE FOR A COMPLEX POPULATION

MedStar Health, which serves the greater D.C. area, has been running a value-centric healthcare programme since 1999. This home-based primary care model, known as MedStar Housecall Programme, is a mobile care intervention that provides a "single, comprehensive source of home-based medical and social services for frail elders and their families."

MSHP employs mobile, inter-professional teams consisting of geriatricians, social workers, licensed practical nurses, and office coordinators.

The programme is the brainchild of two geriatricians, Drs Eric DeJonge and George Taler. The two physicians recognised that a growing population of elders with severe chronic illness was struggling to find healthcare that successfully addressed all of their medical and social needs.

To better serve the medical and social needs of a complex subgroup of elders, MSHP employs mobile, inter-professional teams consisting of geriatricians, nurse practitioners, social workers, licensed practical nurses, and office coordinators. Each team is responsible for building an intimate relationship with a panel of 300 patients and families to help them manage all the ups and downs in the final years of life.

Core MSHP services include home-based primary care, 24/7 on-call medical staff, physician continuity to the hospital, intensive social services, and coordination of needed specialty and ancillary services. Care coordination and a strong social work component are keys to the success of the model because many of the MSHP patients come from low-income families, which makes over 40 per cent of them eligible for both Medicare and Medicaid.

In addition, they have multiple chronic conditions (such as diabetes, congestive heart failure, and dementia) and physical disability, which increases their need for intensive medical and social services. Weekly all-hands-on-board huddles allow the teams to review, analyse, discuss, and systematically address any issues that come up with individual patients. A mobile electronic health record that allows for live access to patient records (both inpatient and out-patient data), as well as home-based diagnostic tools, further supports the teams.

Since its inception, the model has served over 3,600 elders with a current active census of 650 patients. Most referrals into the programme are done by word of mouth, not surprising given MSHP's track record of better patient experience. Moreover, a comparison of MSHP patient outcomes and costs with a matched set of controls showed that MSHP patients have similar survival outcomes at a 17 per cent lower cost than control elders.

KEY LEADERSHIP LESSONS

COMMUNICATE A CLEAR VISION AND STRATEGY. Since its inception in 1999, the programme has never deviated from its focus on improving the health and experience of the frail elders and their families. This clarity of vision and the constant focus on "doing the right thing for the right patients at the right time" are some of the reasons MSHP has enjoyed the dedicated support of MedStar's leadership, despite the fact that Medstar's traditional financial model as a hospital-based organisation (driving higher volumes of admissions) conflicts directly with the goals of MSHP—which is reducing hospital and ER utilisation.

EMPOWER THE FRONT LINE. Although the initial evaluation of patients, 24/7 on-call coverage, and hospital duties are carried out by physicians, continuous patient oversight is the purview of nurse practitioners and social workers, who determine the frequency of visits based on medical and social needs. The MSHP healthcare professionals experience a deep sense of satisfaction and demonstrate a long-term commitment to the mission of the programme. Staff turnover has been very low, with most staff tenure at 5-10 years.

ADVOCATE HEALTHCARE/ADVOCATE PHYSICIAN PARTNERS: CLINICAL INTEGRATION PROGRAMME

Advocate Healthcare and Advocate Physician Partners (APP) created their Clinical Integration Programme in 2003 to reduce costs and improve quality by building a culture of learning, collaboration, and value into the system. To accomplish these goals, the Clinical Integration programme provides direct support and infrastructure to independent physicians who are members of APP, coupled with a payment model linked to performance that creates the right incentives and alignment to promote superior performance.

There are many challenges associated with organising independent physicians into a collaborative initiative. As stated by Dr Lee B. Sacks, Chief Executive Officer of Advocate Physician Partners and Executive Vice President and Chief Medical Officer of Advocate, “We’ve learned through our experience with APP over the years that infrastructure is the ‘secret sauce’ that allows clinicians to be a team that can improve care.”

To that end, Advocate and APP made gradual, yet significant investments in IT infrastructure, and they created protocols and guidelines to support the implementation of best practices by participating physicians.

Early on, Advocate leadership also recognised that the success of their model was highly dependent on a strong physician base. Advocate provides a range of options for physicians who wish to establish affiliation, and provides physicians with ample leadership opportunities throughout the system. This explains why physicians make up half of the seats on governance boards throughout the health system. “This arrangement creates a structure that enables physicians and hospitals to work together to improve care with common quality and cost-effectiveness goals. Physicians and hospitals are collectively accountable for quality and cost during negotiations with payers." Furthermore, having such a strong physician presence in the health system's governance not only ensures physician involvement in the development of pay-for-performance metrics, but also translates to widespread physician acceptance of performance measurement and improvement.

Finally, recognising the shortcomings of fee-for-service reimbursement, Advocate developed what became known as their style of pay-for-performance model, which was tailored to their own practice model. This new payment model bases physician reimbursement on "performance against an extensive list of metrics that cover technology use, efficiency, quality, safety, and patient experience." In fact, a given physician's incentive depends not just on their individual performance, but may also depend on the performance of their specialty across the system, within their PI-IO (Physician-Hospital Organisation), and throughout the entire clinically integrated network.

The Clinical Integration Programme has shown some striking results across a number of conditions. For example, the asthma initiative resulted in annual cost savings of $16 million compared to national average costs, while screening for depression in patients with diabetes or cardiac conditions resulted in more than $10.8 million annual savings below the costs of standard practice.

KEY LEADERSHIP LESSONS

Communicate a clear vision and strategy. Through systems design, compliance to best practices, and collaboration, Advocate continually seeks to improve quality outcomes for their patients at a low and sustainable cost. The impact of the resulting improved quality extends outside the boundaries of Advocate. As Mark Grube states, "Doctors who practice with Advocate often also practice at other hospitals. What is occurring is that even when they are practicing at hospitals that are not under value-based contracts, they've changed how they practice. We're seeing declines in utilisation there, too."

Create a culture of transparency and teamwork. Advocate publishes an annual Value Report highlighting the actual performance data from its physicians against national and/or industry benchmarks. The report is available to both those within the organisation and the public. "The structure of this report helps maintain the partnership's focus on having a business case. By aligning the individual self-interests of key stakeholders, the partnership creates value through collaboration."

Insist on operational excellence. Between 2004 and 2010, Advocate introduced a number of technologies to improve clinical operations. Those practices that did not comply with technology adoption (despite resources provided by APP to help with the transition) were not credentialed by APP for the following year, sending a powerful message to the participating providers.

VIRGINIA MASON MEDICAL CENTER: MARKETPLACE COLLABORATIVES

In 2004, four large self-insured employers in the Seattle area approached Virginia Mason Medical Center (VMMC) looking for a solution to rising healthcare costs. Recognising an opportunity to apply the Toyota-based lean delivery model implemented at VMMC two years prior (known as the Virginia Mason Production System), the organisation decided to establish what is now known as the Marketplace Collaboratives in which VMMC providers interact directly with employers and their health plan. The aim of each collaboration is to improve the value of healthcare delivery, reducing costs to the provider and to the purchaser, and improving access for patients.

In just three months, the back pain collaborative resulted in substantial improvements in patient outcomes (94 per cent of patients returned to work the same day, or the day after).

Employers select clinical conditions of highest priority, set purchasing standards, and review medical evidence with VMMC providers. Using this customer input, combined with the application of lean management, Dr Robert Mecklenburg and his colleagues developed and implemented a series of new clinical care models focused on these high-cost conditions: high-cost to both the patients and the payer (in this case the employer of these people). This initiative was strongly reinforced by the visionary support of their CEO, Dr Gary Kaplan.

It became a great example of effective collaboration among different stakeholders. The initial collaborative set up in 2005 was composed of representatives from VMMC, the four large self-insured employers, and Aetna, their health plan. Starbucks identified low back pain as a significant problem that resulted in high healthcare costs and loss of productivity.

Through further analysis of claims data, the VMMC team, led by Dr Mecklenburg, discovered that 80-85 per cent of patients with back pain suffered from uncomplicated conditions easily treated with physical therapy. Moreover, it was determined that 90 per cent of the old evaluation and treatment process was absolutely no help at all in treating these patients and getting them back to work. These observations resulted in a radical redesign of the treatment plan for patients with uncomplicated back pain.

In just three months, the back pain collaborative resulted in substantial improvements in patient outcomes (94 per cent of patients returned to work the same day, or the day after) and in access to care (the waiting period for an appointment went from 31 days to same-day access), all the while reducing overall treatment costs (from 5 per cent above the national average to 9 per cent below).

Building on the success of the back pain collaboration, VMMC has expanded its Marketplace Collaborations to address a total of 15 high-cost diagnoses, including headache, large joint pain, breast masses, and acute respiratory infection—all with improved results, better access, and lower costs.

The marketplace collaborative model has been scaled and transported beyond Virginia Mason. Beginning in 2009, Virginia Mason assisted the private sector employer Intel in successfully applying the marketplace collaborative model in the Portland, Oregon market. In 2011, the State of Washington as a public sector employer began using a marketplace collaborative, the Robert Bree Collaborative, to set purchasing standards based on quality for high-cost conditions.

KEY LEADERSHIP LESSONS

Clarify the mission and vision, sell the goals, and align the staff. The CEO, Gary Kaplan, MD, reset the direction for Virginia Mason when he established the importance for all the staff to focus on the customer. The customer was always the patient, but in many situations they found that an additional key customer was the payer, and the payer ultimately was the patient's employer.

ENGAGE THE CUSTOMER. VMMC included the actual payer—the employer—in collaborative development of both new models of care and new models of payment. Success depended on making these models acceptable to both parties. And it was successful: the payment was linked to the value generated by Virginia Mason for the employer and the patient.

ENSURE OPERATIONAL EXCELLENCE. The foundation for Marketplace Collaboratives was established in 2001 when Dr Gary Kaplan, as the CEO of VMMC, led his team in efforts to learn and apply lean methodologies designed to identify and eliminate waste within the Virginia Mason system. These efforts inspired and challenged VMMC physicians to question the status quo and to drive further improvements in their delivery of patient care.

EMPOWER THE FRONT LINE. Gary Kaplan ensured that the entire staff was trained in "lean" management and in the Toyota model of workflow process and quality improvement, all the time reducing waste. The organisational leadership assured that these principles were applied to good use by his operational leadership team, which included Dr Mecklenburg.

CASE STUDIES FROM THE NETHERLANDS

In 2014, the Dutch healthcare institutions Bernhoven and Rivas decided on a revolutionary strategy change. Because of this they achieved significant results and are a source of inspiration for other healthcare providers to rethink the quality of healthcare and cost control.

Bernhoven is a regional general hospital in Uden, North Brabant, with an annual turnover of €200 million. Some 2,000 employees, 130 of whom are doctors, take care of 100,000 patients. Rivas is a healthcare provider based in Gorinchem offering a broad spectrum of healthcare services including hospital care, home nursing, nursing home care and rehabilitation care. Its hospital attends to some 60,000 patients and generates an annual turnover of about €115 million.

Bernhoven and Rivas take social responsibility for controlling healthcare costs. To achieve this, they developed a strategy that begins with improving quality. Quality includes:

- Offering care at the right place; healthcare and expertise that suit the patient's needs;
- Doing the right things; taking time to develop an appropriate care plan together with the patient (and other healthcare providers);
- Doing things right; excelling in (invasive) treatment.

Because of better quality, unnecessary and avoidable healthcare is prevented. On balance the volume of healthcare decreases, resulting in lower healthcare costs. This strategy means a paradigm shift in the Dutch healthcare system because of the shift from focus on efficiency (lower costs) to quality (decreased volume). The content of the strategy consists of quality initiatives suggested by doctors. They are thus in the lead and their initiatives are the driving force for changes. Quality initiatives with the strongest impact are described in the case studies below.

To achieve this revolutionary quality strategy a financial backstop is needed; a strategy aiming at lower volumes of care results in financial losses for care providers in Holland's traditional medical care cost structure. Because of this Bernhoven, Rivas and healthcare insurers agreed on a fixed-price contract set for several years. This created the financially stable climate and space to manoeuvre required to begin implementing the quality initiatives.

SHARED DECISION-MAKING: BERNHOVEN AND RIVAS

In the Netherlands, a standard consultation with a doctor takes 10 minutes. Bernhoven hospital and Rivas proved that taking more time over a consultation results in better quality of healthcare and lower costs. These pioneers set an example to other healthcare providers in the Netherlands.

According to both doctors and patients, the standard 10-minute consultation leaves insufficient time for an in-depth consultation. Insufficient time during a consultation results in unnecessary healthcare treatments. Because there is not enough time to involve a patient in the decision-making process, the doctor often decides on the care plan. Doctors often opt for a treatment because it is in their nature to want to do something and to solve the problem.

A 'wait and see' attitude and careful monitoring of the patient can feel as if nothing is being done and the patient is not being treated properly. A patient who does not have all the information about his condition will also tend to want a medical treatment. This is often a result of feeling insecure or feeling that one is not being heard. The cost structure is also a motivating factor in treatment: an operation generates more income than a long consultation.

Through more involvement of the patient during decision-making and taking the time that is really needed, the quality of healthcare can be improved. Which treatment plan is most appropriate often depends on the situation of the individual patient. With elective surgical interventions such as inguinal hernia surgeries, medical practice shows many variances. In this grey area careful consideration must be made to determine the appropriate course of action: wait or intervene? This requires a thorough understanding of what the patient needs and what his or her situation is. It requires an in-depth consultation.

VISION AND CONCEPT

Bernhoven hospital and care provider Rivas's primary objective is to increase the quality of healthcare. They try to achieve this by creating the time each patient and his or her doctor need to be able to decide together on the appropriate course of action. This results in joint decision-making and the following actions:

- Giving a patient the time he or she needs when visiting the polyclinic;
- Giving a patient good and comprehensive information about available treatments;
- Giving a patient space to take big decisions over a period of time rather than in one single meeting.

STRATEGY

Bernhoven and Rivas recognise their social responsibility for controlling healthcare costs. They do this by focusing on improving quality. Through this, the volume and corresponding costs decrease. This strategy represents a paradigm shift in Dutch healthcare: from focusing on efficiency to focusing on quality.

Focusing on efficiency results in more production and less time for quality which in the end results in higher costs. In contrast, focusing on quality leads to less (unnecessary) production and hence lower costs.

Putting this revolutionary strategy into practice requires a stable financial base. To achieve this, the healthcare providers and insurers have agreed on long-term contracts. In addition, substantive support with initiatives by employees in the workplace is needed.

Doctors suggest their own initiatives and their energy is the driving force for change. The cornerstone of this strategy is taking more time for patients. Improved healthcare starts with a good consultation, listening to the patient and taking the patient's situation into consideration. An in-depth consultation can result in a care plan that suits the patient's situation. This results in lower costs because generally speaking a patient will often opt for a conservative course of action. It also facilitates more effective diagnoses and prescription of medication by the doctor.

PLANNING AND EXECUTION

Joint decision-making is done by:

1 Longer and more flexible consultations: the patient gets the time he or she needs at the polyclinic;

2 Giving the patient comprehensive information by using the 'three right questions' tool and decision aids;

3 Time and consultations for reflection before important decisions are taken: a patient does not have to do this at one single moment in time.

Bernhoven hospital and Rivas facilitate joint decision-making in different ways. All the above-mentioned methods are used at Bernhoven while at Rivas only a selection is used: longer consultations and decision aids.

Introducing longer and/or flexible consultations requires Rivas to rethink patient scheduling and consulting hours. Assessment and classification of patients is done by the attending specialists. They assess how much time is needed for a specific patient. The medical secretaries then schedule the appointment. As a consequence, the organisation no longer uses the standard 10-minute consultation rule, but schedules consultations of 5, 10 or 20 minutes. To improve the quality of information given to patients, two tools are used:

- 'Three right questions' in general consultations, and
- Decision-making aids in specific consultations.

The 'Three right questions' provide guidance for the consultation between doctor and patient. These questions enable the patient to take more control and put the doctor in the role of facilitator. The patient asks the doctor the following questions:

1 What options do I have?

2 What are the advantages and disadvantages?

3 What does that mean in my situation?

The decision-making aid helps when 'big decisions' have to be made such as the choice between surgery and no surgery. It is a digital tool that gives clear and comprehensive information about the patient's condition and the available treatments. Patients can use it prior to a consultation so they are well prepared when talking to their doctor and they can use it at a quiet time of their choice.

At Bernhoven, using decision-making aids is part of daily practice depending on the following criteria:

- First, it is determined in which consultations the decision-making aid will be of added value. The aid is most useful when it concerns a consultation regarding elective treatment when scientific literature is not clear about the preferred method of treatment. Taking this as a starting point, all of Bernhoven's professional groups have indicated which patient groups and medical interventions qualify for using decision-making aids.

• The next step is finding the right supplier who can deliver the decision-making aids. Bernhoven looked at the quality of the tools, how comprehensive the existing product portfolio was, and at prices.

• The third step is rollout of the decision-making aids in the consultation room. Existing ICT systems need to be adapted. For example, to make decision-making aids user-friendly, Bernhoven integrated them into patients' medical history records. Existing working arrangements have to be adapted. For example, general practitioners need to know at what stage of the treatment plan decision-making aids should be introduced. Apart from attention to implementing organisational changes, attention must be paid to motivating doctors to use the tool.

The third pillar of the joint decision-making concept is taking time and having consultations for reflection before taking a big decision. This mostly affects the planning schedules of the polyclinic. Some patients now see their doctor twice within a relatively short period of time. The information given during the first visit can be processed by the patient. During the second visit a decision can be made whether or not to undergo surgery. This procedure demands a time buffer in the scheduling process.

Finally, it is of crucial importance to draw the patient's and the doctor's attention to the process of joint decision-making. The three above-mentioned methods/tools can facilitate joint decision-making but for it to succeed the right mindset is a prerequisite. An awareness campaign could be helpful with, for example, flyers in waiting rooms, posters at the entrance of the hospital and online video clips. Also communication training for doctors could be useful. Joint decision-making requires doctors to change their approach in the consultation room and needs new interview techniques.

RESULTS

Joint decision-making has proven to be a successful formula in Dutch healthcare. Patients and doctors are satisfied with the process and it has resulted in a substantial reduction of healthcare costs. Bernhoven's patients report they have more information about available treatments and this leads to a treatment plan that best suits their personal situation. When patients are well-informed, they often choose a more conservative course of action. If joint decision-making is actively used, it results in far fewer surgical interventions.

At Bernhoven, the number patients choosing not to have inguinal hernia surgery has risen from 10 per cent to 40-50 per cent since the introduction of the decision-making aids and longer consultations. This trend remains stable over time: only a small number of patients change their mind about not having the operation. Patients also don't go to other hospitals. Bernhoven monitors the degree in which patients are involved in the decision-making process with a tool called SDMQ9.

This is a questionnaire consisting of nine items measuring to what degree patients feel they were involved in the decision-making process. Patients are given this questionnaire once they have visited a doctor at the polyclinic. The resulting answers are used as an internal benchmark. They are also the starting point for discussions among and with doctors with the aim of learning and improving skills.

Any surgery is stressful for a patient. Surgery suitable for the use of decision-making aids is usually high-volume surgery. Because of this, benefits from improved quality and impact on costs are considerable.

Because of the successful results, health insurers VGZ en CZ will now aim at actively implementing the joint decision-making process in other hospitals. VGZ made joint decision-making a part of the so-called Good Practices. This is part of a nationwide agenda. Dutch healthcare providers are increasingly aware of the importance of joint decision-making. Bernhoven and Rivas were pioneers in implementing this promising development in Holland, together with VGZ en CZ.

LESSONS FOR LEADERSHIP

Within the classical cost calculation system, a decrease in volume results in loss of income for hospitals; hospital care is paid for with a fee-for-services model. With the joint decision-making process, Bernhoven and Rivas would 'shoot themselves in the foot'. To prevent this, a financial backstop was created by negotiating a long-term set annual turnover with health insurers. This agreement was a crucial condition to be able to start implementing quality initiatives such as joint decision-making.

Rollout of joint decision-making is a process of learning and improving that needs time and the right mindset. Doctors who are enthusiastic about the process are the core of success of the introduction of joint decision-making. But not all doctors were immediately convinced of the added value of these changes. Through patients and doctors actively sharing their experiences, the more reluctant doctors also became motivated to start working with decision-making tools. The process of joint decision-making now continues to spread throughout the hospital.

Through patients and doctors actively sharing their experiences, the more reluctant doctors also became motivated to start working with decision-making tools

There are two major challenges when introducing decision-making aids. First, they should be customised to the location where they will be used. This makes the rollout time-consuming. The lengthiest part of the process is the dialogue between specialists and general practitioners to reach an agreement about the new method of working.

For example, it needs to be decided when the aids will be introduced to the patient. Bernhoven and Rivas maintain short communication lines with regional general practitioners.

The second challenge is finding the right partner for developing the aids. Most parties that develop these type of tools are start-ups with a limited product portfolio. But the quality of the tools and the number of tools are crucial factors in creating a good decision-making process that can be implemented throughout the whole hospital. Taking time to find the right partner pays in the end.

Bernhoven chose to enter into a long-term partnership with one party and to develop decision-making tools in close cooperation with this partner. Bernhoven has now implemented the decision-making aids that are available. At the time of writing, Rivas was still talking to developers.

SPECIALISTS AT THE EMERGENCY ROOM, BERNHOVEN

In the Netherlands, a visit to the Emergency Room (ER) [in the UK, Accident and Emergency] is often the starting point of a patient's treatment path. Patients get admitted to hospital in two ways: via a polyclinic or via the ER. For that reason the ER is sometimes called 'the front door of the hospital'. When a patient is admitted via the ER, often a number of care activities and corresponding costs result. For example, on arrival at the ER, a patient is admitted or stabilised and requested to visit the polyclinic at a later stage. The path a patient follows on entering the ER is not ideal. At the ER, patients often have to wait and are confronted with different doctors. Patients are also often subjected to extra unnecessary diagnostics or admittance to hospital. In an ideal world, an emergency patient will quickly be attended to by the right doctor who makes the correct diagnosis: 'first time right'. It is possible to improve the quality of care in the ER and thus lower (subsequent) costs. The issues highlighted above are often caused by the presence of inexperienced doctors in the ER. International literature shows that when using experienced specialists in the ER, patients receive care quicker and less unnecessary care is given.

In 2014, Bernhoven hospital took on a pioneering role and committed itself to improving the quality of care in the ER, which treats some 25,000 patients every year. It did this by investing in extra personnel for the department.

VISION AND CONCEPT

Bernhoven's ER is staffed 24/7 by the hospital's best-paid staff. Not only are the doctors highly experienced but the patients' needs come first at all times. Using experienced specialists in the ER is based on the idea that investing in the front end of the healthcare chain saves money further on down the chain. An experienced specialist can make an accurate assessment of what care is needed. For example, should a patient really be admitted to hospital? Or can he or she go home once they have been given the right instructions? An inexperienced doctor would be more likely to admit a patient to hospital 'just to be on the safe side' while sometimes admission is not necessary.

STRATEGY

Bernhoven recognises its social responsibility for controlling healthcare costs. It does this by focusing on improving quality. Through this, the volume and corresponding costs decrease. This strategy represents a paradigm shift in Dutch healthcare: from focusing on efficiency to focusing on quality. Focusing on efficiency results in more production and less time for quality, which in the end results in higher costs. In contrast, focusing on quality leads to less (and unnecessary) production and hence lower costs.

Putting this revolutionary strategy into practice requires a stable financial base. To achieve this, the healthcare providers and insurers have agreed on long-term contracts. In addition, substantive support with initiatives by employees in the workplace is needed. Bernhoven has put this strategy into practice through quality initiatives such as using experienced specialists in the ER.

PLANNING AND EXECUTION

The first step in the execution of this strategy is an assessment of the required doctors' capacity: how many doctors are needed in each medical discipline to provide assistance to patients during the day, evening and night? In most hospitals, it is complicated to answer that question because acute patient care is mixed with elective patient care. Bernhoven chose to separate acute and elective patient care. As a result acute care in the polyclinic does not interfere with scheduled surgery.

At Bernhoven a specialist in the ER cannot at the same time see patients in the polyclinic or be in the OR. Because of this separation of care activities, Bernhoven has a better understanding of how much doctors' capacity is needed.

The next step is determining if there is a (possible) mismatch between required and available capacity. To ensure commitment of experienced specialists in the ER, Bernhoven hired extra expertise in the ER in 2014. These ER doctors specialise and work in emergency care only.

Finally, existing schedules need to be adapted to the situation. Bernhoven gives priority to emergency care and deploys residual capacity in the OR. Implementation of this strategy can be done throughout the whole hospital or on a smaller scale, starting with a few enthusiastic specialists. At first, the majority of health insurers opposed the initiative at Bernhoven.

For that reason Bernhoven started the initiative on a small scale. The first successes were highlighted which inspired other disciplines. Slowly, these were also used in the ER. The ER now has 24/7 staff consisting of experienced specialists (internists, cardiologists, surgeons, and ER doctors).

RESULTS

Because of good results, Bernhoven, health insurers and patients support the use of experienced doctors in the ER. After two years, the number of patients admitted to hospital after a visit to the ER was down by 7 per cent while at the same time the number of patients that visited the ER saw a slight increase.

Other parameters also decreased sharply: over a period of two years there were 7 per cent fewer days in hospital; 10 per cent fewer follow-up visits after an ER visit; and 9 per cent fewer requests for diagnostics. The lead time in the ER was down by 7 per cent compared to before. Patients receive care more quickly.

These successes must be seen in the light of Bernhoven's broader strategy. The causal relationship between the extent of impact and the initiative is somewhat obscured by the hospital simultaneously starting several quality initiatives. All of these contribute to a change of mindset in doctors whereby the patient's needs come first and unnecessary care is prevented. Still, even though the causality is not 100 per cent proven, one can conclude that using experienced doctors in the ER contributes to improved quality of healthcare and lower costs.

Inspired by Bernhoven's success, other healthcare providers are slowly starting to invest in their ER staffing levels. For example, Rivas and Radboud University Medical Centre, Nijmegen, use geriatric expertise as soon as vulnerable old people visit the ER. These hospitals are also recording a lower volume of ER healthcare.

LESSONS IN LEADERSHIP

Successful implementation of quality initiatives requires committed specialists. This is a crucial factor. All initiatives result in a different way of working for doctors.

At first healthcare providers opposed the initiative of using experienced doctors in the ER. A frequently-heard objection was the fact that the highest-paid staff in the hospital were wasting some of their time. If there are only one or two patients in the ER, what does a specialist do in the remaining time? These critical objections were overcome by talking to specialists about how they could use their 'lost time' doing related activities in or near the ER. For example, tests were moved from the polyclinic to the ER.

To increase support for the specialists Bernhoven appointed so-called 'drivers' who are prepared to change and who are able to inspire enthusiasm for the initiatives in other doctors.

PROJECT COPD INBEELD: AN EHEALTH SOLUTION PROVIDING INTEGRAL SUPPORT

The COPD InBeeld project is a joint initiative of Sensire (an organisation providing long-term healthcare) and the Slingeland Hospital in Holland. They started the initiative several years ago in response to the growing number of people with Chronic Obstructive Pulmonary Disease (COPD) who depend on these oganisations for healthcare.

In this pilot project Sensire and the Slingeland Hospital, together with the home healthcare providers Focus Cura and NAAST, focused on finding a smart solution following from a 'triple aim idea': improved health for the patient population, improved care for the individual patient, and lower costs by continuously improving service.

They did not use the traditional and separate care processes from individual service providers but used an eHealth application. With the help of an App, patients can make their own measurements twice weekly and send the recorded values to NAAST healthcare professionals.

The NAAST staff check the (development of) the values from a distance and intervene when values are outside the bandwidth. Intervention takes place by means of video calls with the patient whereby a nurse from NAAST together with the patient, his or her partner/informal care provider looks at what the options are to influence the values and thus the chronic disease.

Take the patient's needs as a starting point: People want to be more in control of their health. The COPD InBeeld project started explicitly with this in mind.

Apart from that, when a patient feels insecure about his or her health condition, by using video contact there is 24-hour access to a carer from NAAST. If escalation to a higher level of expertise is deemed necessary, a Sensire pulmonary nurse and a specialist hospital nurse would be involved. If required, a home visit or a visit to a specialist nurse takes place. In addition, it is now possible to have an early warning of deviations in the pattern concerned because of more continuously monitoring of values.

As a result, early intervention is possible if needed. Through this form of self-management and because of the early warning system, a patient is more in control of his or her situation and health condition. This results in less stress while coping with the disease, which is what people obviously need. Another major improvement for COPD patients, who tire easily, is fewer stressful visits to the hospital.

The results of the pilot project showed fewer home visits were made, a decrease of 26 per cent in hospital visits, and a fall in hospital admissions by no less than 28 per cent. This led health insurer Menzis to embrace this innovative approach and to enter into discussion with both parties about financing this process of integral service provision.

Such an innovative approach also requires innovative financing. Extensive discussions led to financing based on results coupled with shared savings. The insurer no longer reimburses supplied medical assistance or intervention but makes funds available to realise the improvement of health gains in the COPD patient population.

The underlying care process and the corresponding division of tasks between Sensire and the Slingeland Hospital is the responsibility of both organisations. Both the health insurer and the organisations involved benefit from cost savings achieved.

They can invest budget savings in further optimalisation of service provision. The method of providing healthcare as implemented by Sensire, Slingeland Hospital, NAAST, Focus Cura and Menzis, has now found its way to a new group of patients who suffer from heart failure.

LESSONS IN LEADERSHIP

Take the patient's needs as a starting point: People want to be more in control of their health. The COPD InBeeld project started explicitly with this in mind. Through completely reorganising the healthcare process and with the support of smart digital tools, people can to a large extent take care of themselves while they know that professionals are watching over them and are available if and when they are needed. Rather than working from what is traditionally available in the medical sector, try to find a match with what people can and want to do.

Have the courage to go beyond the boundaries of your organisation. Both Sensire and Slingeland had the courage to descend from their ivory tower and think about a more integrated type of healthcare service that benefits the population and the individual patient. And in the end that is really what healthcare should be about.

New services demand a new way of financing. The patient has a legal right to home visits in the traditional model of healthcare insurance. But taking measurements by themselves or remote care is not normally included and will not be reimbursed by the healthcare insurer. It is also not common practice to negotiate contracts for integral healthcare service provision which break through the financial partitions in healthcare.

Parties committed themselves to finding a way to finance the 'triple aim approach'. Their innovative way of contracting could be an example for others who have the same innovative approach using e-Health tools.

ITERATIVE PROCESS

To make a real difference, the appropriate dimensions of the leadership framework described above need to be put into practice by two critically important groups, those that actually practice medicine (healthcare providers) and those who support them in that endeavour (policy makers, regulators, payers, pharma and medical device manufacturers, etc). However, even if we are able to get everyone to embrace their roles and responsibilities in shaping the future of healthcare, lasting change, especially across such a large and complex sector, takes time.

For example, a great deal of repeated discussions will be required to get buy-in across all layers of the system into the new vision for healthcare. We will also need to continuously monitor the progress being made toward overarching system goals and to carry out appropriate course corrections by fine-tuning the tactics used for system transformation.

Finally, leaders will have to find ways to propagate the need for continuous learning throughout the system and its stakeholders. The concept of continuous learning has a precedent in healthcare and is called the "Science of Healthcare Delivery" or "Healthcare Delivery Science".

It is based on a relentless search for the best outcomes, safety, service, lowest costs, best models of care, and best models of payment throughout a nation and even the world.

Realising that healthcare is local and that an outstanding solution in one region may not work in another, it is imperative that healthcare leaders have a broad base of knowledge of what works. Then the leaders need to apply these lessons to develop local innovative solutions that aim for the same level of results as the best in the world.

CONCLUSIONS

High-value, patient-centered care is not only realistic but also achievable. However, it will take great leadership and a strong alignment among government agencies, policymakers, payers, and providers. Without this alignment, we will continue to see only occasional, one-off examples of high-value delivery organisations, led and driven by intrinsically motivated professionals, instead of such organisations operating out of a much larger, coordinated strategy that brings us to high-value healthcare—and finally gets us to the point where we are actually “getting what we are paying for”.

CHAPTER 5

A Man-Made Blue Zone in the Netherlands

WRITTEN BY FOLKERT KUIPERS
Edited by Robert Low, Maarten Verkerk and Benjamin Bilski

The key factors in this case study are vision, innovative concept, mission and strategy, planning, operational output and leadership

QUALITATIVE ANALYSIS: PAGE 189

Since 2006 the mission and vision of the University Medical Center Groningen (UMCG) have been dedicated to the topic of Healthy Ageing. This includes a focus on the specific demographics of the Northern Netherlands and more broadly on the projections of a globally ageing population with enormous consequences for many societies. Because these consequences go beyond healthcare and medicine alone, the University of Groningen – a university with a strong research record – has adopted Healthy Ageing as one of its three societal themes[1]. The Healthy Ageing Network Northern Netherlands (HANNN) has been formed as a 'triple-helix' network organisation, with partners in research institutes, government bodies and business. Together we are building the 75-acre Healthy Ageing Campus as the locus of our core activities.

International networks have been developed to carry out research and educational activities within the framework of the Alliance of Healthy Ageing. This chapter focuses on our values, objectives and challenges, and our ambitions to achieve a maximal societal impact by building the Future of Health, with the realisation of a man-made Blue Zone in the three Northern provinces of the Netherlands as the ultimate goal.

INTRODUCTION

The major demographic changes that are occuring globally are resulting in a rapid increase of elderly people in virtually every society: by 2050, 20 per cent of the global population will be over the age of 60 and the number of people over the age of 80 will have tripled compared to 2010. Overall, this shift is related to increased life expectancy, as a consequence of improved hygiene, better nutrition and better medical care, but it is also a consequence of declining birth rates.

Specific regions may be particularly affected because of additional emigration of the young for economic reasons and/or socio-economic and political trends in society. The topic "Healthy Ageing" is therefore broadly recognised as one of the greatest societal challenges affecting most countries in every continent over the next decades. Indeed, the consequences of ageing societies are manifold and will affect individuals, communities and economies.

Ageing is the leading risk factor for nearly all major chronic diseases, such as type 2 diabetes, neurodegenerative diseases, cardiovascular diseases and dementia, and also for cancer. These chronic diseases constitute an increasing cause of morbidity and hence a major driver of healthcare costs now and increasingly so in the near future.

Conceptually, it is important to emphasise that healthy ageing is not only about elderly people: in fact, healthy ageing starts in the womb and at various stages in early life. For instance, nutritional status or exposure to pollutants can have a strong impact on health outcomes later in life due to "metabolic programming". Programmes aimed at promoting healthy ageing should therefore address the entire course of life in all its aspects. The goal is to promote *healthspan* rather than lifespan (see Figure 1).

Healthspan is defined as the years lived without chronic age-related conditions that allow people to live an active life and hence to contribute to society. *Lifespan* refers only to life expectancy.

Yet our understanding of the biological mechanisms that influence human ageing and its relation to disease development remains limited. This knowledge is essential to define strategies that extend healthspan. The societal impact of ongoing demographic changes is also evident from "the 10 facts on ageing and the lifecourse" as defined by the World Health Organization (WHO)[1]. In short and modified form:

1 The world population is rapidly ageing.

2 The number of people aged 80 and older will quadruple in the period 2000 to 2050.

3 By 2050, 80 per cent of older people will live in low- and middle-income countries.

4 The main health burdens for older people are from non-communicable diseases.

5 Older people from low- and middle-income countries carry a greater disease burden than those in the rich world.

6 The need for long-term care is rising.

7 Effective, community-level primary health care for older people is crucial.

8 Supportive "age-friendly" environments allow older people to live fuller lives and maximise the contribution they make.

9 Healthy ageing starts with healthy behaviours in earlier stages of life.

10 We need to reinvent our assumptions of old age.

It is evident that, in the end, a meaningful extension of healthspan for all citizens around the globe will take an enormous effort in the fields of life sciences and (bio)medical sciences, as well as of social sciences, nutritional sciences, economics and spatial sciences. With respect to the latter, it is becoming increasingly clear that the built environment has a strong impact on the course of an individual's life, not only with respect to the indoor environment of houses and public buildings (air quality, light, etc), but also the surrounding infrastructure, (playgrounds, bicycle lanes, meeting points, etc) and local availability of healthcare facilities.

It is also evident that economic and cultural differences between countries will have to be taken into account as an additional layer of complexity. The maintenance of a healthy lifestyle from birth onwards (or even prior to birth) is key, but it has proven to be difficult to achieve a focus on primary prevention and it will require increasing health literacy in all communities.

This process, in turn, will be strongly influenced by socio-economic and cultural differences between communities. In addition, early detection of markers of disease, preferably of biomarkers for a group of age-related diseases rather than for each one separately, is necessary for early and effective treatment (secondary prevention). Application of novel consumer-tailored eHealth tools can be of great value in this respect.

Conceptually, it is important to emphasise that healthy ageing is not only about elderly people: in fact, healthy ageing starts in the womb and at various stages in early life

Finally, improved treatment strategies for most of the chronic, age-related diseases are still in urgent need of the recognition that each patient should be considered as an individual that requires a personalised, individualised or "precision medicine" approach.

Novel technologies in genetics, analytical chemistry, imaging and bioinformatics provide, in theory, the tools for personalised medicine but full application of Big Data in public health and clinical care is still in its infancy. Consequently, more research into these issues, as well as harmonisation of data and applications, is urgently needed.

At the same time, however, an awareness is needed that medical professionals and care givers should be educated:

1) to cope effectively with the global consequences of an ageing population where more elderly patients have more than one chronic condition;

2) to cope with the massive amounts of data from new diagnostic paradigms that allow them to "treat the patient rather than the disease";

3) to cope with the increasing globalisation in healthcare that requires that, for instance, cultural differences between ethnic groups should be taken into account in interactions with patients. It is important that healthcare professionals of the future are aware of and contribute to societal initiatives to increase health literacy of citizens; and to maintain a healthy workforce in view of increasing retirement ages.

THE UNIVERSITY MEDICAL CENTER GRONINGEN

The University Medical Center Groningen (UMCG)[2] was established in

2005 as a joint project by the University of Groningen[3] and the Academic Hospital Groningen. At present, the UMCG is one of the largest hospitals in the Netherlands and by far the largest employer in the Northern Netherlands. More than 10,000 employees provide patient care, are involved in medical education and perform cutting-edge scientific research. Research and education at the UMCG are funded through the University of Groningen, while the Faculty of Medical Sciences functions as an integral part of the university.

More than 3,400 students of the University of Groningen study Medicine, Dentistry or Human Movement Sciences, while more than 340 physicians are doing their specialty training at the state-of-the-art facilities of the UMCG. In addition, in collaboration with the Faculty of Mathematics and Natural Sciences, UMCG is strongly involved in bachelor education in Life Sciences and Technology, while the Graduate School of Medical Sciences runs a highly selective Top Master programme on Innovative Medicine with dedicated tracks, including, amongst others, Food and Health, Biology of Ageing, Oncology and Neurosciences.

With its curricula, the UMCG is a leading academic education centre in the Netherlands. Groningen is not only renowned for its successful modernisation of academic education, as exemplified by the new medical curriculum based on four Learning Communities (G2020), but also for its innovative approach to nursing studies and in-service training, courses and training programmes for (para)medics and nursing staff. The fact that we are front-runners in the development of education and training is further exemplified by the presence of the modern Wenckebach Skills Centre.

Groningen is not only renowned for its successful modernisation of academic education, but also for its innovative approach to nursing studies and in-service training

Patients attend the UMCG for basic care but also for specialist diagnoses, examinations or treatments. All patients from the Northern Netherlands with complicated or unusual disorders are eventually referred to the UMCG. Good-quality care is always based on the latest information and is provided by the best doctors and nurses. Together with the support staff, they work every day on achieving the vision of a single common goal: Building the Future of Health.

At the UMCG, the patient is always central. This is reflected not only in the provision of care and treatment itself, but also in the way in which care provision is organised. Patients receive efficient and excellent quality care, rapidly and efficiently. The UMCG is also able to arrange any necessary home care. Increasingly, UMCG combines the various forms of care in specialist centres such as the Comprehensive Cancer Centre or the Alzheimer Centre. In these centres, physicians work in close collaboration, in focused treatment and care programmes. As a result, patients are not required to visit different parts of the hospital but receive treatment at a single location.

Research at the UMCG is coordinated within the Graduate School of Medical Sciences and is characterised by a combination of fundamental and patient-oriented clinical research. The interaction between these two stimulates the development of new clinical and research opportunities. Problems that occur in clinical practice act as a catalyst which sets new fundamental research in motion, whereas fundamental research can come up with new clinical possibilities.

THE VISION OF THE UMGC: HEALTHY AGEING

The University Medical Center Groningen has adopted a single focus for its activities in care, education and research: *Healthy Ageing*, the only one among the eight university medical centres in the Netherlands to do so. This was the focus from the very beginning in 2005 when the Faculty of Medical Sciences of the University of Groningen and the Academic Hospital Groningen merged to found the UMCG.

The strategic decision by UMCG leadership at the time also aimed to unify the *corporate identity* of our newly-founded organisation around a single overarching theme. It was based on a number of considerations that were discussed by groups of selected professionals:

1) The desire to build on existing expertise, excellence and renown in fundamental, epidemiological and clinical research into chronic *age-related* diseases, such as chronic obstructive pulmonary disease (COPD), cancer, cardiovascular diseases, and dementia.

2) The *specific demographics* of the Northern Netherlands, i.e. the main catchment area of the UMCG, with specific areas characterised by low socio-economic status, high incidence of chronic disorders and reduced life expectancy.

3) The long-term view on global *Grand Societal Challenges* that are associated with ageing populations, with respect to excessively rising healthcare costs, but also to social structures, the economy, and the built environment. Being a frontrunner would allow UMCG/Northern Netherlands to become a leader of innovative solutions with wider societal impact in the Netherlands and abroad.

HEALTHY AGEING ALSO THE FOCUS OF THE UNIVERSITY OF GRONINGEN

The University of Groningen, founded in 1614, is an ambitious international research university (ARWU ranking position in 2017 – 59, up from 72 in 2016 – puts it in the top 1 per cent of global universities)[1] with strong roots in the Northern Netherlands. In its strategic plan of 2010, the University of Groningen formulated three research priority areas for societal impact: Energy, Sustainable Society and Healthy Ageing.

The university creates and shares knowledge through outstanding research and education, and thus benefits society. The Healthy Ageing programmes across the various faculties allow for the initiation of new entities at the crossroads of expertise areas, e.g, the Centre of Expertise Healthwise (a collaboration between the Faculty of Economics and Business and UMCG), in which research is conducted in the field of Health(care) Economics, Business, and Management. Research topics include quality, safety and patient logistics, organisational change, e-health, pensions, the mechanisms of the healthcare market, and consumer behaviour in the use of medication.

IMPLEMENTATION OF HEALTHY AGEING POLICY

Obviously, it has taken and still takes considerable efforts to implement Healthy Ageing into the veins of our organisation, to involve professionals that are active in care, education and/or research, and to define specific goals that are based on the Healthy Ageing concept. The dedicated Healthy Ageing Team, as well as teams within the communication department and the Center for Development and Innovation, are continuously active in lobbying and branding within and outside the UMCG, organising meetings and lectures. They initiate activities such as Healthy Ageing in the Clinic, interactions with private partners, and new educational programmes such as the Summer School on Healthy Ageing[4].

A NEW CONCEPT OF THE UMCG

In hindsight, it is possible to pinpoint the concept and the critical factors that underlie the successful implementation of the Healthy Ageing profile in the UMCG and in the region. The concept of the new UMCG is based on four pillars of infrastructure and networks:

1) Development of a research infrastructure;

2) Building the Healthy Ageing Campus Netherlands;

3) Establishing the Healthy Ageing Network Northern Netherlands (HANNN);

4) Establishing the Alliance for Healthy Ageing with the Noaber Foundation, Vita Valley, and the Mayo Clinic (AHA).

1.DEVELOPMENT OF A RESEARCH INFRASTRUCTURE

The first pillar of the new concept of the UMCG is: *"Establishment of eye-catching, internationally oriented research infrastructures for healthy ageing research, i.e. the biobank and population cohort study **LifeLines** and the European Research Institute for the Biology of Ageing (**ERIBA**)."*

LifeLines is one of the most valuable multidimensional cohort studies and biobanks in the world. LifeLines offers a unique data resource for scientific use to study a broad scope of (epi)genetic, biomedical, environmental and psychosocial factors in relation to healthy ageing, disease development and general well-being.

LifeLines has evolved into a big data research infrastructure comprising an elaborate, longitudinal cohort, a biobank including a data warehouse and biomaterial, a dynamic research programme, and a collaborative network including other data- and biobanks.

The cohort study started in 2006. It is now the largest infrastructure performing scientific population-based studies in the Netherlands, with 167,000 individuals who will be followed for 30 years. It covers information on environmental exposures, (epi)genetics, and psychological and social factors, as well as data on healthcare use to cover societal impact. Thanks to this wide scope, the high number of participants and the long follow-up time, the LifeLines data set lays down a broad foundation for important breakthroughs in the screening, prevention, diagnosis and treatment of (chronic) diseases as well as in the understanding of the aetiology of disease.

The developed infrastructure enables UMCG researchers to perform large-scale, genetic epidemiological studies in a broad range of multifactorial diseases.

The wider aim of the European Institute for the Biology of Ageing (ERIBA) is to better understand what causes ageing. Studies are focused on the mechanisms that result in loss of cells with age and the decline of function in old cells and tissues. The aim is to develop novel strategies to prevent and combat age-related disease and to provide evidence-based recommendations for healthy ageing.

ERIBA researchers expect to be contacted frequently by the press and media to comment on new research findings, and to advise politicians and policy-makers

The approach is based on curiosity, communication and collaboration. Group leaders and their teams working with unique model systems and technology platforms meet regularly and share their knowledge and expertise to accelerate discoveries.

Studies in ERIBA are specifically focused on the molecular mechanisms that trigger the age-related decline in the function of non-dividing cells and the regulation of self-renewal and (epi)genetic stability in cells from tissues with continuous turnover. Many studies have documented diminished control of gene expression and protein activity in old cells compared to young cells. The resulting loss of cells and tissue function is a major component of normal ageing. Key factors are likely to differ between cells that do not divide much after childhood (such as most cells in the heart or the brain) and cells that continue to divide over a lifetime (such as stem cells of renewing tissues and lymphocytes).

ERIBA investigators address questions about ageing using collaborative, multi-disciplinary, technology-oriented approaches, which include next-generation sequencing and bioinformatics, flow cytometry, live cell imaging and studies of suitable genetic model systems. ERIBA aims to become a world-class research institute, internationally renowned for cutting-edge research. It aims to attract top-level scientists of all levels of seniority.

Staff scientists are expected to publish their papers in high-impact journals with quality prevailing over quantity. There is ample opportunity to explore uncharted territory and embark on high-risk projects that can yield major breakthroughs.

The development of novel tools and technology required to answer fundamental questions is a key element of this strategic focus. Long-term investment in developing a strong research programme is favoured over short-term activities leading to incremental results. Staff scientists define their own research agenda, but are expected to collaborate with fellow scientists in ERIBA and its affiliated local and distant Institutions.

Aspiring scientists will find that ERIBA provides an excellent training platform which prepares them very well for the internationally competitive field of life sciences in the 21st century. ERIBA scientists participate in programmes aimed at disseminating new scientific knowledge related to the biology of ageing to society at large.

ERIBA researchers are therefore expected to be contacted frequently by the press and media to comment on new research findings. ERIBA scientists are also expected to advise politicians and policy-makers in general. Teaching programmes for high school students and teachers will be implemented, and sharing knowledge with the lay audience through a variety of activities is strongly encouraged.

On the ground floor the ERIBA Science Hall hosts a permanent exhibition showing the research activities of staff scientists.

ERIBA is a research institute which will focus on fundamental biological problems through basic research. It is therefore also likely that new knowledge acquired through this research agenda will repeatedly generate potentially commercially relevant and lucrative intellectual property.

The protection of such intellectual property is strongly encouraged and will be facilitated by a proactive patent office. The nearby presence of the newly developed Healthy Ageing Campus will further enable future commercial activities.

2.BUILDING THE HEALTHY AGING CAMPUS NETHERLANDS

The second cornerstone of the new concept of the UMCG is: "*Realisation of the Healthy Ageing Campus Netherlands on the premises of the UMCG.*"

The Healthy Ageing Campus Netherlands[5] is located on and around the University Medical Center Groningen, on the east side of Groningen city centre. It covers an area of around 75 acres and is the beating heart of the Healthy Ageing programme.

The campus is designed to be an inspiring ecosystem where high-quality researchers and entrepreneurs work together with a range of partners on innovative medical technology and devices; special molecules and materials; and on developing, testing and (bio)analysing new pharmaceuticals. With the focus on 'how to grow old in a healthy way', campus participants have developed excellent research and expertise in various areas.

3.ESTABLISHING THE HEALTHY AGEING NETWORK NORTHERN NETHERLANDS (HANNN)

The third pillar of the new concept of the UMCG is the 'triple helix' network organisation Healthy Ageing Network Northern Netherlands (HANNN), which represents the wider knowledge and development cluster in the field of healthy ageing. Within this network, the private sector, government organisations and (care) knowledge institutions are brought together to find answers to fundamental questions such as: Why do some people reach a healthy old age while others do not?

The UMCG is also a participant in this collaborative venture. This systematic approach to cooperation aims to contribute to the development of a better quality of life in old age, but will also create a basis for substantial economic and social activities. The challenge of staying healthy longer through innovation calls for fundamental breakthroughs in core areas that determine sickness and health, in particular in the field of life sciences, food and nutrition, medical technology, care and cure and healthy lifestyle.

Thanks to the scale of the approach, the natural cohesion in the region, national and international cooperation, the available knowledge, and the short lines of communication with the private sector, the Northern Netherlands is a logical trial area for innovations and new care concepts.

4.ESTABLISHING THE ALLIANCE FOR HEALTHY AGEING (AHA) WITH THE NOABER FOUNDATION, VITA VALLEY, AND THE MAYO CLINIC

The fourth and final pillar of the new concept of the UMCG is: Establishing strong international research, innovation and educational networks, with partners from the EU, Asia and USA, as exemplified by the Alliance for Healthy Ageing (AHA) with Noaber Foundation, Vita Valley, Mayo Clinic and UMCG.

The objective of the Alliance for Healthy Ageing is to advance the development of tools that enable older individuals to live independently by bringing together clinicians, engineers and scientists and providing a forum for the exchange of ideas. The Alliance includes the Mayo Clinic's Robert and Arlene Kogod Center on Aging (Rochester, Minnesota, USA), the University Medical Center Groningen (Groningen, The Netherlands), the Noaber Foundation (Ede, the Netherlands) and VitaValley (Ede, the Netherlands).

The Alliance for Healthy Ageing organises annual meetings dedicated to translational research on ageing, alternating between the

USA and the Netherlands.

UMCG/HANNN also participate in various EU networks, including the European Innovation Partnership on Active and Healthy Ageing (EIP-AHA). The European Commission has identified active and healthy ageing as a major societal challenge common to all European countries, and an area which presents considerable potential for Europe to lead the world in providing innovative responses to this challenge. European Innovation Partnerships (EIPs) have been set up for this reason. These partnerships pursue a *triple win* strategy for Europe by:

> **1)** Enabling EU citizens to lead healthy, active and independent lives while ageing;
>
> **2)** Improving the sustainability and efficiency of social and healthcare systems;
>
> **3)** Boosting and improving the competitiveness of the markets for innovative products and services, responding to the ageing challenge at both EU and global level, thus creating new opportunities for businesses.

This will be realised in the three areas of prevention and health promotion, care and cure, and active and independent living of elderly people. The overarching target of this partnership will be to increase the average healthy lifespan by two years by 2020. The Northern Netherlands is active in several action groups of the European Innovation Partnership.

RESULTS

The UMCG's organisation-wide, dedicated and sustained focus on healthy ageing represents a gradual and long-term innovation and breakthrough process to address the grand societal challenges associated with ageing populations. The merger that formed the UMCG in 2005 and the vision articulated by the University of Groningen in its research priorities have resulted in a new concept for the UMCG. This applies to the organisation as a whole, in its infrastructure, core research activities and partnership networks, as well as in branding, corporate identity and the UMCG's international position.

It also applies internally by creating awareness for staff active in all the key areas of care, education and research. This concept turned out to be very fruitful within UMCG, as well as for the University of Groningen as a whole, in terms of research funding and scientific output. One clear result is the significant rise of the University of Groningen in the ARWU global rankings to 59 in 2017. In the years 2005-2012 Groningen was in the 100-150 range, but the 2010 strategy started paying off when in 2013 Groningen jumped to 92, in 2014 to 82, in 2015 to 75, and in 2016 to 72 and in 2017 to 59th in the world.

The term Blue Zone comes from* National Geographic *researching areas where people live long lives. These areas include Okinawa, Sardinia and a few others which have been named Blue Zones

The process has also been fruitful for the region of the Northern Netherlands, which, through the activities of HANNN and the Healthy Ageing Campus Netherlands, has seen a wave of innovations and economic development. There is continuity of leadership, and clarity of vision is key: the UMCG Mission and Vision document 2015-2020, entitled *Building the Future of Health 2020*, reiterates the continuous focus on Healthy Ageing. And for good reasons: proven success is the most effective stimulus to continue implementing these policies.

Ten years after the establishment of the UMCG in 2016 an evaluation of outcome parameters reveals that for UMCG and for the region of the Northern Netherlands their decisions and their dedication have been fruitful.

For instance, external research funding, particularly from the EU, has more than doubled; there is a 90 per cent increase in the number of published theses; and recruitment of staff and students has improved. These are tangible results of a focused research policy.

Dedicated educational programmes have been developed, apart from the innovations in regular curricula, such as dedicated summer schools (Ageing Brain; Healthy Ageing: from Cell to Society) with international partners (Newcastle, Coimbra, Copenhagen) and EU-funded PhD Student International Training Networks focusing on ageing and age-related diseases.

Equally important, in July 2016 the European Commission presented a ranking of European Reference Regions in the field of Active and Healthy Ageing[6]. It appears that the Northern Netherlands region leads the pack in Europe when it comes to Healthy Ageing. No fewer than 78 regions from 22 member states were evaluated. The Northern Netherlands, under the leadership of HANNN, achieved the highest possible score of four stars, an honour bestowed upon only a very select group of reference sites.

This recognition of excellence in Healthy Ageing in the Northern Netherlands creates exposure and collaboration opportunities for its knowledge institutes and companies, making it easier to export innovations in the area of healthy and active ageing. The Northern Netherlands is the only Dutch region to receive this coveted four-star status.

This will, in the years to come, be translated into additional activities in the Northern knowledge institutes but also in EU-supported economic initiatives, e.g., those embedded in the Knowledge and Innovation Consortium (KIC) Health, a multibillion euro programme under the umbrella of the European Institute for Innovation and Technology (EIT), a body of the European Union.

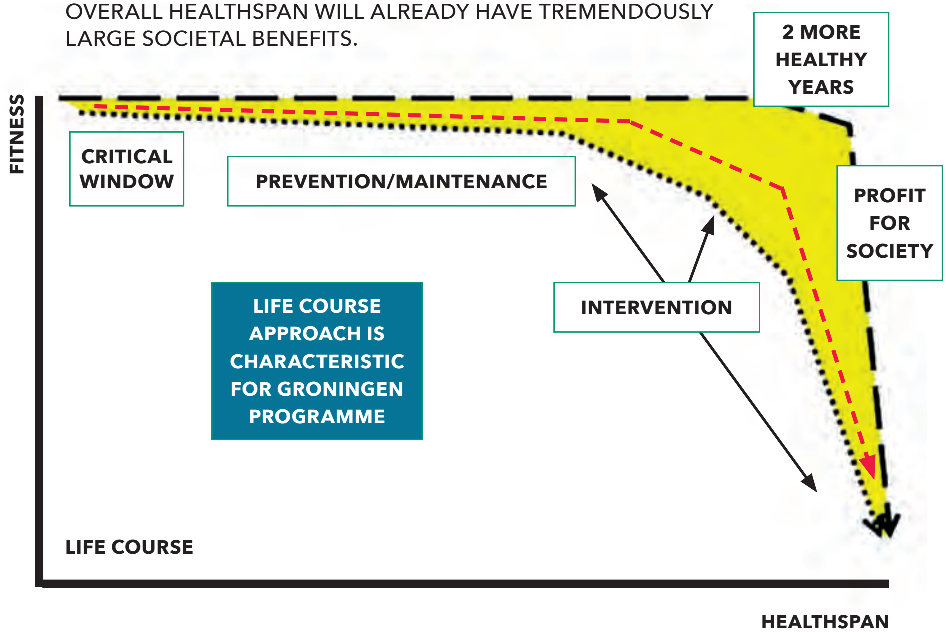
A BLUEPRINT FOR THE FUTURE

It is evident that during the last decade a lot of work has been done to promote Healthy Ageing activities in the Northern Netherlands, leading to enhanced scientific, educational and economic activities.

Yet this does not fulfil our ambitions: the North also aims to become the first man-made Blue Zone in the world.

The term Blue Zone comes from *National Geographic*. In 2004 research was carried out into areas where people live extremely long lives. These areas include Okinawa (Japan), Sardinia (Italy) and a few others which have been named Blue Zones. The Northern Netherlands is currently far from be-

FIGURE 1: SCHEMATIC REPRESENTATION OF THE LIFE-COURSE APPROACH THAT IS CHARACTERISTIC FOR THE HEALTHY AGEING PROGRAMMES OF THE UMCG/UNIVERSITY OF GRONINGEN. A RELATIVELY SMALL ENHANCEMENT OF THE OVERALL HEALTHSPAN WILL ALREADY HAVE TREMENDOUSLY LARGE SOCIETAL BENEFITS.



ing a Blue Zone. People living in the north die – on average – a few years younger than people in the urban centres of the western and central Netherlands ("Randstad"). In the north, there is a relatively large number of people who smoke and drink too much. In addition, the population in the Northern Netherlands is relatively old. Ageing became a priority for the north and this contributed to the need to establish HANNN several years ago.

The food industries, partners in HANNN, intend to make healthier products, and local employers have launched sports and exercise programmes. However, it is a serious problem that 'especially fit and slim people want to participate'[7]. It is a real art to develop programmes in which everyone participates: therefore we have high expectations for the programme on Health Literacy. According to HANNN there is a lack of knowledge about health in general. It is the ambition of HANNN to address the following challenges:

1) Life expectancy in the Northern Netherlands is below the national average due to an unhealthy lifestyle (increase in diseases like obesity, cancer, COPD, cardiovascular diseases and diabetes).

2) The population of the Northern Netherlands is ageing rapidly, while population growth is at a virtual standstill.

3) Age-related (chronic) illnesses are rising.

4) Because of demographic change, there will be a shortage of healthcare professionals.

5) But these challenges offer excellent societal and economic opportunities in the field of Healthy Ageing.

How to realise HANNN's ambition to actually make these opportunities happen? There are several aspects that need to be fulfilled to be able to adapt to a Blue Zone, including: innovative housing (houses of the future for multiple generations), ICT-driven excellent care, innovative concepts of care in the region, E-health, M-health, Telecare 5G and Big Data; improving a healthy lifestyle (health literacy, healthy diets with regional food industry, lifestyle adaptations through quantified self-technology); and the creation of healthy societal networks (involving initiatives such as "Grip & Glans", an interactive programme aimed at encouraging self-management in groups of elderly people, and their evaluation via LifeLines, the world's largest and deepest population study).

More work needs to be done. We believe that national and international cooperation, within the new initiative of the Noaber Foundation, the Healthy Life Alliance, provides a platform to initiate and execute these exiting novel and future developments

CONCLUSION

The paradigm shift that the UMCG has gone through during the last decade, from a 'disease-focused' to a 'health-focused' vision, has taken time and a great deal of effort from its leadership. And while it is still far from complete in some aspects, such as programmes for employees, there have already been significant successes both for the UMCG and the University of Groningen as a whole. A knowledge-based institution with thousands of highly-trained professionals behaves like an oil tanker in the open sea: a course adjustment only gradually becomes visible: the implementation of the 2010 strategy for Groningen has led to an ongoing rise up the global rankings since 2013.

The rapid conversion of key leaders within the organisation has led to their acknowledgement that, by opting for Healthy Ageing, the UMCG is now a forerunner in current thinking about healthcare. This success has rapidly created a supportive atmosphere. Indeed, since Healthy Ageing translates into Preventive, Predictive, Personalised and Participatory (P4) Medicine, this choice has created a leadership role for the UMCG in various respects that has translated into visible and quantifiable outcome parameters.

CHAPTER 6

Van Oord: Dutch Marine Ingenuity

INTERVIEWS WITH JAC. G. (KOOS) VAN OORD. WRITTEN AND EDITED BY ROBERT LOW AND JOHANNA NOOM

Interview by The Owls team

> The key factors in this case study are strong leadership and entrepreneurship, practical vision, innovative drive, operational excellence, can do mentality, window of opportunity

QUALITATIVE ANALYSIS: PAGE 190

FIGURE 1: OFFSHORE INSTALLATION VESSEL AEOLUS AT GEMINI OFFSHORE WIND PARK

In an era dominated by multinational corporations, family-owned businesses find it increasingly hard to compete at a global level. Yet the Dutch dredging and marine engineering business Van Oord has managed to survive and prosper after expanding its operations from the Netherlands throughout the world. It has achieved this by a policy of judicious mergers, entrepreneurial ingenuity, technical innovation, long-term planning and a deep involvement by successive generations of the Van Oord family.

INTRODUCTION

The beaches of the Maldives' many islands make the Indian Ocean archipelago a popular luxury tourist destination, but life in the capital, Male, isn't always as agreeable for its 130,000 residents. Male was running out of space for the new homes and facilities that the increasing number of people flocking to live or work there needed. The solution was to expand the Maldives' land mass by enlarging four of its islands, a difficult task in an environmentally sensitive area full of coral reefs.

The government called in the Dutch marine construction company Van Oord, which started the job in 2015 and completed it in little over a year. Part of the project involved removing the valuable coral and relocating it elsewhere, working throughout with a local NGO, Save the Beach and other experts. All the rock used to replace the coral, and all the equipment used to do the work, had to be brought in from overseas: a typical example of marine ingenuity.

Such a complicated project is a typical example of work undertaken by Van Oord, which specialises in dredging and marine construction, oil and gas infrastructure and offshore wind projects. It is one of the world's largest marine engineering companies, employing 4,500 people working on projects all around the world. Yet it is still a family-run business and intends to remain so. In 2017, Van Oord was involved in 180 projects in 42 countries. The coral relocation project in the Maldives is a good example of a technically complex project that shows the company's firm social involvement.

Other major Van Oord international projects included widening access to Rio de Janeiro's harbour so that it can accommodate the new generation of bulk carriers and supertankers; the Gemini Offshore Wind Park off the Dutch coast, consisting of 150 Siemens wind turbines providing energy for 750,000 people, which came fully into operation in May 2017; the Burbo Bank wind farm installation in the Irish Sea eight kilometres off Liverpool; in Kazakhstan, dredging a 68-kilometre-long channel to the port of Prorva, providing access to new oil and gas fields essential to the country's economic development; oil and gas-related offshore activities in Egypt; extensive

FIGURE 2: BLOCKBUSTER AT MAASVLAKTE 2 ROTTERDAM

dredging operations in Kuwait and Dubai; a large land reclamation project to expand the port of Kaohsiung, Taiwan; dredging operations in Indonesia and Australia; a new container terminal at Moin, Costa Rica which, like the Maldives project, involved delicate environmental issues; and even stabilising the wreck of a sunken Second World War German submarine lying on the sea bed at a depth of 160 metres off the Norwegian cost to prevent its load of toxic mercury from escaping into the sea.

In the Netherlands, some of Van Oord's recent projects include the Rotterdam port extension project Maasvlakte 2 to safeguard the city's position as the most important port in Europe; dredging 600,000m^3 of sand as part of the preparatory work for construction of the world's largest sea lock at Ijmuiden which is described as "a new front door" for Amsterdam and enables it to receive the new generation of large seagoing ships; a similar job for the Port of Rotterdam with the Breeddiep Channel Widening Project; and the creation of an artificial peninsula called the "sand motor" near The Hague for preventative natural coastal protection, allowing sand to spread along the coast by wind and water.

With this innovative pilot project, the Netherlands continues to set the standard in marine management by working with, instead of against, the water. Another innovative coastal defence initiative was the Hondbossche and Pettemer Sea Defence project—the seaward extension of the beach and the construction of a dyke in a dune in front of the dyke between Camperduin and Petten, which increased the Netherlands' land mass by the equivalent of 400 football fields.

In 2017, Van Oord had a turnover of €1.5 billion and recorded a net profit of €78 million.

VISION

What is the vision that enabled Van Oord to remain a private, family-owned company in the 150 years of its existence during which it grew from a small Dutch business into a successful international operation with a turnover of more than 1.5 billion euros a year? According to Koos van Oord, CEO from 1995 to 2008—when he handed over to his cousin Pieter—and still an influential voice as a member of the Supervisory Board and Chairman of the family holding company, its driving force is the Van Oord family's entrepreneurial spirit.

"It is a combination of wanting to be your own boss, shaping your own destiny, the desire to go beyond traditional boundaries, to draw up your own plans in a field you love and you are passionate about. Then you must have a firm dose of perseverance, a talent for the field in which you work and a family that supports you.

"As a company we are used to taking major risks, for example when we went into offshore wind power in the Netherlands. When we started with these activities in 2002, the market was limited. Was that move thought through? No. Was that all planned? Barely. But it was entrepreneurship, seeing opportunities that drove us to enter that market. We originate from the Biesbosch region, an area where land and water meet. Many entrepreneurs come from there. So it's also a bit in our genes.

"Our founding father had a vision, but not a kind of grand vision from which all the other decisions developed logically. Without a vision you cannot be an entrepreneur but I think the entrepreneurial drive was more important for our family than the vision. The vision came along the way. To stay ahead and remain competitive, you need to think about new opportunities all the time. If I had asked my father, who ran the business earlier on, 'Dad, have you ever in your life been innovative?' he would have said, 'Help me, can you explain that word? What are we talking about?'

> ***"We originate from the Biesbosch region, an area where land and water meet. Many entrepreneurs come from there. So it's also a bit in our genes***

"But was he innovative? Yes, by asking questions like: how do we avoid becoming too dependent on one market? Should we broaden our activity base? How do we as a company stay on top of events? How do we attract good people? Those kind of questions determined his direction step by step."

The company was founded by Koos's great-grandfather Govert van Oord in 1868. He set up his own business, selling wood and reed products grown in the marshy land of the Biesbosch. He proved to be a talented, hard-working and original entrepreneur who liked taking risks, the kind of qualities that have characterised the Van Oords ever since.

By 1948, the company had split into three competing family businesses, all active in the field of marine contracting. One was established in the city of Utrecht. It was Van Oord Utrecht that was the basis of today's successful construction company. It was owned and managed by Jac. G. Van Oord and his sons Goof and Jan (who were later joined by their younger brothers Koos and Andries). Jac. G. Van Oord had a vision: to develop the company by expanding it into a broad spectrum of marine-related activities. It was well-positioned to take advantage of the Netherlands' economic expansion after the Second World War along with most of Western Europe.

The company benefited from winning projects to replace the infrastructure destroyed or damaged during the war, and after that from the many other projects needed to fuel the country's steady economic development in the 1950s and 1960s. Projects included the expansion of the Port of Rotterdam, building canals such as the Scheldt-Rhine connection and the Amsterdam-Rhine canal, and the development of new industrial estates such as the Sloe industrial area in the province of Zeeland. The Netherlands' unique geographical situation also played a major role.

Van Oord was heavily involved in a number of projects that were part of the Delta Works (Deltawerken) carried out after the flooding in 1953 in which nearly 1,600 people lost their lives. The Delta Works were a series of construction projects in the south-west of the Netherlands aimed at shortening the primary seawall that defended the land against the sea by 700 km and intended to protect a large area of land around the Rhine-Meuse-Scheldt delta from the sea to prevent the disastrous consequences of future storm surges.

The massive challenges and size of the Delta Works projects turned out to be too large for one individual company. So in 1959 a new company called Aannemers Combinatie Zinkwerken [ACZ] was established to combine the expertise of its four shareholders, all companies active in the field of marine activities. Van Oord Utrecht was one of them. Because of their specific knowledge and experience, all four companies jointly developed many new innovative working methods such as machine manufacturing of subsea concrete protection mattresses. The collaboration proved to be a success.

It participated in the construction of a number of dykes and barriers culminating in the famous Eastern Scheldt Storm Surge Barrier (Oosterscheldekering), the largest and last of 13 ambitious projects which marked the completion of the Delta Works in 1986. This cutting-edge engineering and construction project involved closing off the Oosterschelde river by a dam and a barrier. A four-kilometre section in the barrier has huge sluice gates, which are normally open but can be closed in adverse weather. This complex solution was chosen to maintain the saline condition of the ecological environment in the Oosterschelde. The influx of salt water and the tides in the Oosterschelde national park have thus been retained, though restricted.

As a result of the Delta Works and the qualified staff Van Oord developed over time, the company gained a vast amount of experience in handling big, complex marine projects. This was the driving force for developing into a leading international business.

Van Oord did not get involved in the dredging business until 1953: it did so to avoid being too dependent on other companies for the dredging work that was crucial for the building of marine-related projects. It started by buying a 27-year-old dredging vessel, the Westerschelde, after which it bought a second dredger, the Waddenzee. Van Oord adapted it for its own purposes. In 1958 the company built a third vessel, the Oosterschelde, in its own yard. It was still a small fleet by Dutch standards, but Van Oord was on its way.

BREAKTHROUGH

Van Oord's dredging breakthrough came with the widening and deepening of the Terneuzen Canal in 1963. The project seemed too big for the firm but it would last long enough for Van Oord to build a new ship during its execution. The family took the risk and Van Oord won the contract with the lowest tender bid. It was three times the size of any project Van Oord had hitherto won, and it provided the impetus to order a new cutter suction dredger, the Utrecht, which was built at the Verolme yard in Heusden. In 1964, the firm was awarded a large contract by the Ministry of Public Works for the construction of the connecting roads on the south side of the Benelux Tunnel in Pernis. Again, it meant investment in new vessels—a dredger and four large barges—further increasing the size of the company's fleet. By 2017, Van Oord had amassed a fleet of more than 100 vessels for its dredging, offshore oil and gas, and offshore wind activities.

CONCEPT

By the mid-1960s Van Oord Utrecht had developed into a company with a turnover of approximately €15 million, 400 employees and a wide range of activities: coastal and river bank protection works, dredging and earthmoving works. But in the late 1960s the growth of the marine construction market in the Netherlands slowed considerably. The company was faced with a choice: should it stay in the Netherlands and try to expand its domestic activities, or should it seek to conquer new markets abroad? And if the latter, what were the risks and what investment would be involved? Could the company do it on its own?

Jac. G. had died in 1966 and the company was now run by his sons Goof and Jan. Goof was a strong proponent of expansion abroad, while Jan advocated staying in the Netherlands and growing the company with associated activities such as road building, concrete works, piling, etc. He believed expanding abroad was too risky and the company might be forced to give up its independence, maintaining that independence was a prerequisite for the whole family. During this period several major Dutch construction companies sounded out the brothers about their willingness to sell the company. They rejected all advances. Not so their cousins and rivals at Van Oord Werkendam who sold out to the Hollandsche Beton Groep (HBG) in 1971.

STRATEGY

After much deliberation, Goof's strategy was adopted and the company expanded overseas, at first to Belgium, Germany, France and Spain, and later outside Europe. Another key part of the strategy for conquering new markets was to find partners and so increase its knowledge and equipment base by working together. "With the hindsight of today," says Koos van Oord, "long-term business partners have played a crucial role in the development of our company. We have always been keen to invest in good long-lasting working relationships with our business partners. They have been instrumental in our growth."

One by one, the shareholders in ACZ sold their stakes to their partners so that in 1973 Van Oord Utrecht became the sole owner. But the family's ambition to become an international dredging contractor was seriously hindered by two circumstances: first, it lacked the capital to invest in seagoing equipment, and second, it did not understand how the world outside Europe worked. Hence the company decided in 1979 to join forces with the Rotterdam shipping company Phs. Van Ommeren. On a 50/50 basis they established Dredging VO2 to jointly enter the trailing suction hopper dredging market. This collaboration also proved to be successful and was a decisive factor in the further worldwide growth of Van Oord. In 1983, when Phs. Van Ommeren restructured its activities, Van Oord Utrecht bought its share of VO2.

In the 1970s Van Oord benefited from the boom in the Middle East, where it was involved in the reclamation works for the new port, industrial and urban area of Jubail, Saudi Arabia. But this turned out to be a double-edged sword: when a fall in oil prices in the 1980s led to a global recession, the major oil-exporting countries halted such projects. Meanwhile, dredging contractors like Van Oord had invested large sums in new equipment. A shake-out in the industry was inevitable. In the late 1980s a number of smaller family dredging companies closed down or were taken over by larger companies. It was a huge challenge for Van Oord, at that stage still one of the smaller international dredging companies. The family was determined to remain independent, but was the company big enough to survive? By now, Koos van Oord Sr.—one of the younger brothers—was in charge: he explored the possibility of a merger with other dredging companies but to no avail. The solution he arrived at was to merge the two operating companies Van Oord Utrecht and ACZ into one company called Van Oord ACZ. This took place in 1990.

At the same time, the risks of working overseas became apparent during the Sentosa Island project that the Singapore government was developing as a holiday resort and in which Van Oord was heavily involved. Van Oord had been keen on participating in this project in the hope of raising its international profile. Serious problems were uncovered in its design and execution, forcing the company to suspend operations. In Kuwait another problem appeared without warning when on 2 August 1990 the Iraqis invaded the country. Several Van Oord employees were in Kuwait at the time for the construction of a port. All international flights were cancelled and telephone lines were down. After repeated attempts to get out of the country, they finally succeeded after five weeks.

The setbacks in Singapore and Kuwait, on top of the generally depressed market situation, meant that Van Oord had to pull out of a planned takeover of the German dredging firm Broekhoven from its parent company Hochtief. Fortunately Van Oord's financial position was strong enough to withstand these shocks and enabled the company to survive and eventually prosper again as an independent, family-owned entity. But it was a difficult period in its existence.

Things improved in the 1990s, with Van Oord ACZ's involvement in a number of Asian countries, for example in Hong Kong for the construction of Chek Lap Kok (the new Hong Kong airport), the connecting road projects to Kowloon and Hong Kong Island, and huge reclamation developments in Singapore to extend the land base of the city. Then, out of the blue, projects in Dubai surfaced. This came at an unexpected but crucial moment for Van Oord as the large reclamation projects in Singapore had come to a standstill because of the "sand war" between Singapore and its neighbours Malaysia and Indonesia.

At the start of the twenty-first century Dubai's ruler Sheik Mohammed bin Rashid Al Maktoum presented his masterplan. Given the country's modest gas and oil reserves, the sheik gradually developed a grand strategy for Dubai—its future would lie in service and tourism. To make the country attractive to investors, substantial investments were made in infrastructure, accommodation and iconic buildings.

Dubai's new islands were 10 times larger than Palm Jumeirah, costing €2.5 billion, and it was the largest land reclamation project ever in dredging history awarded to a single company.

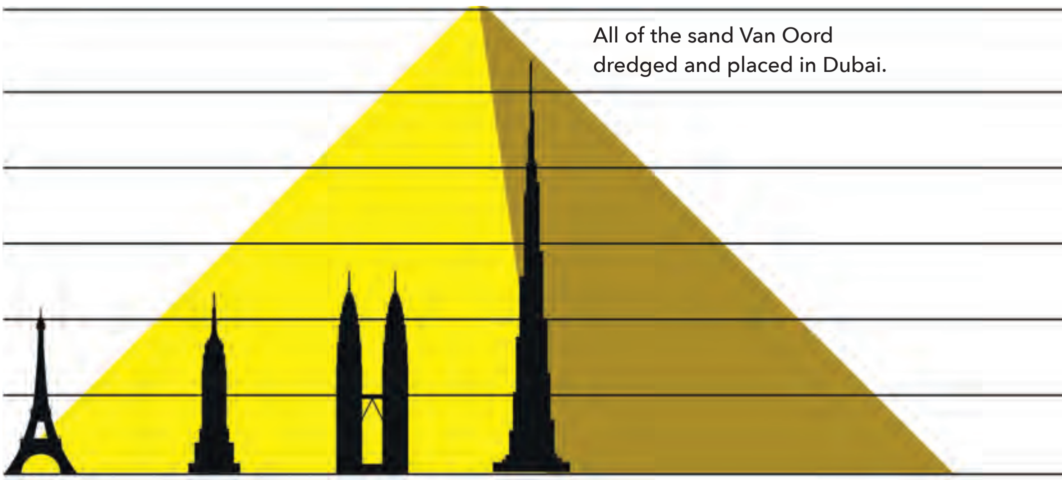
However, the sheik's greatest dream, developed in only a few years, was the construction of a series of islands resembling palm trees by using sand dredged from the sea bottom. They would give Dubai a drastically different view, even from space. In less than a decade, Dubai achieved the ultimate in city rebranding. Because of Van Oord ACZ's major role in a number of Dubai's leading projects, the company benefited greatly from the country's skyrocketing ambition.

It all started for Van Oord ACZ with the construction of the Palm

FIGURE 3: RECLAMATION WORKS IN DUBAI

Jumeirah island. The project was awarded to Van Oord for two reasons: the innovative design of palm and crescent, and the deployment of dredging equipment that traditionally had not worked in the Middle East. This resulted in substantial cost savings. The successful completion of this project led to even bigger projects: The World and Palm Deira. The World comprised a series of small islands shaped in the form of countries and continents which, seen from the sky, looked like the world. These new islands were 10 times larger than Palm Jumeirah, costing €2.5 billion, and it was the largest land reclamation project ever in dredging history awarded to a single company.

In 2003 Van Oord ACZ merged with a much larger company, Ballast Ham Dredging (BHD). The main reason for this expansion was that the ever-increasing size of projects such as Dubai required a much stronger and bigger company in terms of staff, equipment and knowledge. Van Oord ACZ had an 8 per cent share of the top lead dredging and marine construction market and considered itself too small in view of the latest developments. Although BHD had a 22 per cent market share, the new, enlarged company bore the name of Van Oord.



The Eiffel Tower in Paris is 317 metres tall.

The Empire State Building in New York is 318 metres tall.

The Petronas Twin Towers in Kuala Lumpur are 414 metres tall.

The Burj Kalifa in Dubai is 828 metres tall.

UNPRECEDENTED QUANTITIES OF SAND AND ROCK

- Paris' Eiffel Tower is 317 metres tall, New York's Empire State Building is 381 metres tall and Kuala Lumpur's Petronas Twin Towers are 414 metres tall. At 828 metres tall, Dubai's Burj Kalifa is the world's tallest building.
- Here, Van Oord's total sand production during the years they were active in Dubai is compared with the volume of Egypt's Great Pyramid. The Great Pyramid would be dwarfed by the imaginary pyramid that could be built with all the sand they dredged and handled during the Dubai Decade, which would tower over even the world's tallest building.
- It is difficult for most people to imagine what a billion cubic metres would really look like, or what a weekly production rate of 500,000 tonnes really means. To make this a bit easier to imagine: the total quantities of sand and rock that Van Oord used to build Palm Jumeirah, The World, Deira Corniche and all of the other projects it constructed in Dubai would build a pyramid so large that it could house all of the largest structures in the world.
- All of the sand that Van Oord supplied in Dubai for the construction of the various projects would build a pyramid 910 metres tall on a square base measuring 1,818 metres on each side.
- All of the rock that Van Oord transported and installed in Dubai would build a pyramid 323 metres tall on a square base measuring 646 metres on each side. For comparison purposes: The Great Pyramid is 147 metres tall on a square base measuring 230 metres on each side, and its volume is approximately 2.5 million cubic metres.

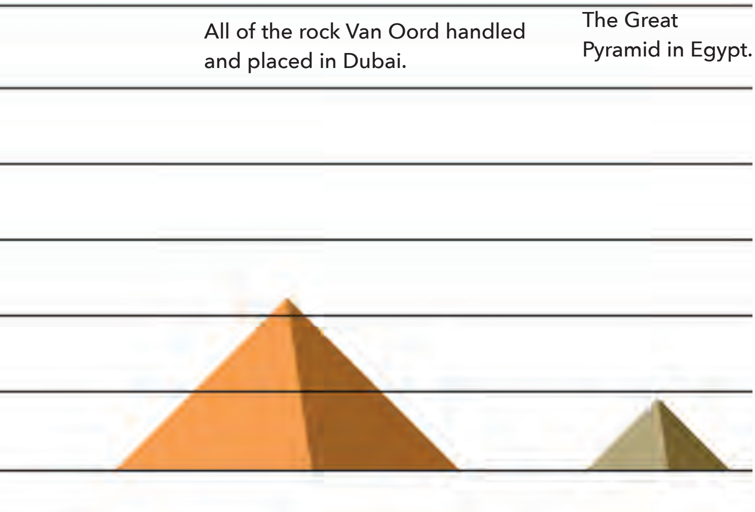


FIGURE 4: RECLAMATION WORKS IN DUBAI 2

The new firm benefited greatly from the increasing number of projects in Dubai until the global financial crisis struck in 2008. At that time the Dubai projects accounted for a €500 million annual turnover. In November 2008 Dubai imploded overnight and immediately all projects were put on hold. The consequences for Van Oord were severe. Within months it had to cut down drastically on its local workforce of 2,000 employees, whilst moving its dredgers and expat staff elsewhere in the world.

The firm proved flexible and financially strong enough to overcome this major setback. This was partly due to Van Oord's move into a new and exciting area: offshore wind power. The opportunity arose because of Western Europe's concerns about climate change and its focus on clean, sustainable energy. In 2017, offshore wind brought in revenues of €403 million, accounting for 27 per cent of Van Oord's annual income of €1,530 million (dredging accounted for 60 per cent, oil and gas 13 per cent).

INNOVATION

PRODUCT/MARKET INNOVATION Van Oord has always sought to innovate to stay ahead of the pack. It has done so in a number of ways, most importantly by adapting its product portfolio in accordance with market developments. In post-war Holland, it seized the opportunities created by reconstruction and economic development to move into new areas such as port expansion and the building of new roads, canals, harbours and industrial estates.

When the Middle East dredging business was about to boom, Van Oord Utrecht moved in. When the oil boom fuelled economic development in the North Sea, the Middle East and the Far East, Van Oord was there to benefit, as it did when Dubai wanted to realise its ambitions. At the beginning of the twenty-first century, it saw the potential opportunities offered by the new industry of offshore wind power, again in the North Sea. This helped neutralise the effects of the sharp fall in oil and gas prices after 2015.

Many of the projects Van Oord participates in are awarded on the basis of a tender process. This is a well-known but complicated system. “The potential bidders extensively study the project for a limited amount of time, calculate a price and put forward a bid proposal,” explains Koos van Oord. “The client studies the various bids carefully and awards the project based on a limited number of criteria which often are unknown to the bidders.

This does not make the tender system transparent, it is complex and often frustrating. But on the other hand it is a driving factor for innovation and for staying competitive. Nowadays the tender system generally allows the bidders more design flexibility, which stimulates innovation.”

PROJECT INNOVATION “Project innovation—do it better, do it faster, do it cheaper—is a driving force,” says Koos van Oord. “If we want to win tenders we have to be innovative.”

A good example of a technically innovative project was the Delta Works. The technical challenges were so huge that new knowledge, equipment and execution methods had to be developed. So Van Oord, in association with its consortium partners, the client, the Ministry of Public Works, and knowledge institutes, developed the technology to be able to carry out these projects with the required purpose-built floating equipment.

EQUIPMENT INNOVATION For decades now, Van Oord has been in the forefront of developing marine equipment, frequently purpose-built. Van Oord was one of the main contractors in the Maasvlakte 2 project, Rotterdam, the Netherlands. The works involved reclaiming land from the sea to create a huge harbour area. Maasvlakte 2 was the biggest civil engineering project in the Netherlands since the Delta Works.

Van Oord used a specially developed crane, the "Blockbuster", to place 2.5-metre^3 blocks in an 11-kilometre sea wall. This type of crane had never been used before in marine construction. "In our field of activities, the equipment you use is vital," says Koos van Oord. "We are not like civil engineering companies that can rent equipment such as cranes, trucks and other tools. There is no rental market in marine construction. So we have to own and operate the marine equipment—there is no alternative.

"In the development of marine equipment, over time you see on the one hand a limited number of breakthrough innovations while on the other hand there are many more incremental innovations. If you look at the ships we are building nowadays, they look very much like the same equipment we built 20-30 years ago.

But if you look at output, fuel consumption, emission and so on, the differences are significant. The basic requirement is for new marine equipment that can be employed in an efficient and effective way for a period of 20-30 years and that it is a cost price leader. The new ships Van Oord brings to the market are largely developed in-house.

"If we work on the development of new equipment, we have to realise that new equipment must last for many years so we have to think ahead about possible future market developments. We can only predict changes in the market for a limited number of years, say two to three, but we need to think much further ahead.

To avoid becoming too dependent on one single market, we also build ships that have a multi-purpose character. The downside of a multi-purpose ship is the risk that they appear not being competitive in any specific market. This is the dilemma of multiple functionality versus competitiveness.

LOGISTICS

"What is important, is that our equipment is in excellent working condition. Maintenance and repairs of the marine equipment and its parts that are subject to wear and tear is a key task for our ships maintenance department.

"We need enough spare parts on the shelf to be able to operate worldwide on a 24-hour basis. If we do not have spare parts available at the right time, then we have a big problem because the ship might not be able to continue its operations. But too many spare parts leads to unnecessary capital being tied up. So the question is, what spare parts do we order, what can we do to use more standard parts across different ships? This really is a strong focus. Can we do it better?"

LONG-TERM THINKING

Another key priority for Van Oord is long-term thinking. "That is particularly important in a family business like ours," says Koos van Oord, "with an increasing number of family shareholders and the objective to hand over the ownership from one generation to the next. However, without our many very committed and loyal employees, that would not even have been possible. Basically the Van Oord employees are the backbone of the family company.

"For decades now, we have not been not the sole owner of Van Oord. We are happy to have capable minority shareholders on board who help in preventing us becoming complacent. NPM Capital was our external minority shareholder for more than thirty years. A few years ago, four other investment advisors took their place. Most family-owned businesses don't like external influences, but we do. It leads to better decision-making. In a family-owned business, probably more than in any other business, you have to think about and anticipate the changes which might occur in the future and be ready for them.

"In the 1990s 'the three-pillar strategy', a strategic concept, was developed. The three pillars were dredging, marine construction, and offshore. The reason behind this strategy was that three legs—or activities—give more stability than two legs, let alone one leg. So if one activity has a slow or negative growth for a couple of years, the other one can hopefully balance it out. And this strategy, which is now more than 20 years old, is still the basis of our thinking.

"The other important element of our business model is focus. There are companies with limited size but multiple areas of activities, some five, six or even more. I wonder whether they are able to oversee all these activities and develop them properly. Van Oord has never had the ambition to spread its activity base too widely and become a general contractor. Not because this would have been impossible, but because we want to stay focused. You need to concentrate. And if you do that, you can stay on top of events.

STRATEGIC PLANNING

"When I went to business school in the 1970s, we were extensively taught the planning processes of the big conglomerates: try to plan your activities for the next ten to twenty years and follow that all the way through. If you look at the fast-changing world of today, it doesn't make much sense any more. On the other hand, you need some kind of long-term strategic plan, but you must build flexibility into it. One way of doing that is by making use of scenario planning which really helps you to understand the different options in different situations. This is an ongoing process."

HUMAN FACTORS

SHAREHOLDERS "In a family-owned business it is crucial that you keep your family shareholders committed. If a large part of the shareholders want to sell their shares, you have a problem. So you pay them a fair dividend and you keep them involved. That is why we invite our family to ship launches, encourage them to visit projects in execution and continuously tell them about the history of the company. Keeping the history alive creates a feeling that one is part of something that is bigger than oneself.

THE NEXT GENERATION Koos continues: "Another objective is developing the next generation. It is important that they are aware of the family's roots, internalise the family values and learn to become responsible shareholders. This is why we have set up the extensive Next Generation Development Programme for family members from the age of 13 to 30. It is divided into age groups. The programme is a combination of getting to know each other, personal development and having fun together. We engage them in a number of practical subjects like finance for those who are not experts to prepare young family members for their future roles based on the family values of stewardship, entrepreneurship and long-term perspective. The Van Oord company has set its core values in the spirit of the family values.

SUCCESSION PLANNING "Last but not least, we want to encourage family members with leadership potential to have a career in the company. And that is the most difficult task. Why? Because they understand that it is not easy to work as a Van Oord member in such a big company. In the first half of their career in the company they feel the burden that they have to perform better than non-family members. Once that period is over, they grasp the benefits of being a family member. It goes without saying that they must be willing to travel frequently. They also might be asked to live and work overseas.

"Living abroad requires family members to be willing and able to adapt to a new environment—being flexible and mobile is essential. All in all, it is an adventurous but demanding existence that in time can be very rewarding. In the first 15 years of my career my family and I moved about 10 times. It is not easy, but we enjoyed it intensively." Currently seven family members hold leadership positions in different ranks in the company.

LEADERSHIP "Leadership plays a key role in any business, but particularly in a family-run business. In our family there are a number of leaders, each with their own field of responsibility. My cousin Pieter, who is the CEO of Van Oord, represents the fourth Van Oord generation. Another cousin is CEO of another family businesses. I am the chairman of the family holding company, MerweOord, which looks after the family's shareholding [about 78 per cent of the company stock].

"Another family member chairs the family association. There are many more family members involved in committee work. This system of involvement, besides giving opportunities for learning and development, also creates a culture of checks and balances which we consider to be crucial.

"Managing a family-owned business requires a variety of skills. Decisions have to be taken, but there should also be room among the family shareholders for debate and different opinions. The most important element of my role is to keep the family united and connected with the business."

THE THREE-CIRCLE MODEL "Our governance structure is based on the so called 'three-circle model' which is a family-owned business concept that originated in the US:

"The figure shows three circles of influence: the business, the shareholders and the family. In the first generation all circles over-

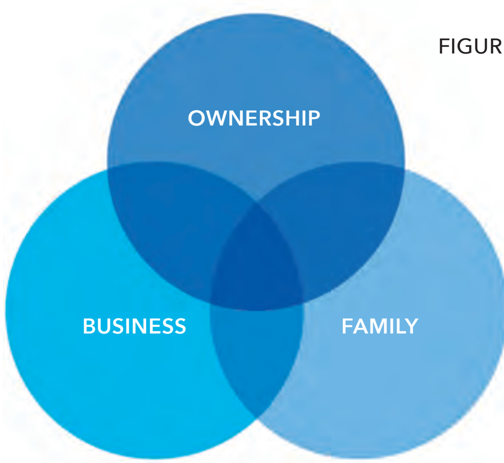


FIGURE 5: THE THREE-CIRCLE MODEL

lap; there is just one circle. As the business matures and it is passed on to the next generation, these three circles grow apart. This creates potential areas of tension. Traditionally family business are well-organised in the business circle, but they tend to forget the family circle. To avoid this, we have a Family Association with its own board, budget, activities, sub-committees, and so on. Its primary role is to keep the family interested in the business—as the business is the cement of the family—and to educate the next generation to become responsible shareholders.

THE IMPORTANCE OF STAKEHOLDER MANAGEMENT "Marine contractors are viewed as disturbers of nature. We arrive at a project location, build a port or an offshore wind park, or make an artificial island. That means interaction with the existing environment. We do our utmost to avoid a negative impact on the environment. However, this is not always possible."

Van Oord is conscious of the impact of its work on ecosystems, human health and safety, local communities and human rights, but is also limited in what it can do. The need to strike the right balance between people, planet and profit is beyond dispute. Sustainability is embedded in the decision-making process and in business operations.

The Van Oord Sustainability Agenda 2020 subscribes to four of the United Nations' Sustainability Goals. "This is our ambition", admits Koos, "but it is not easy to achieve. As a company we have a Sustainability Board with external experts to advise and assist us in preparing for this increasing trend of accountability.

"In the past, when the environment was not yet a hot topic, we could rely on the data provided by clients and engineering companies. They were responsible for the design of the projects, for the environmental impact studies and the compensation of the locals who were affected. Today, stakeholders demand a much larger responsibility from contractors. For example, together with a research institute, we have done extensive research on the effect on fish stocks of removing sand from the bottom of the North Sea."

STEWARDSHIP Both the Van Oord family and company give to charity. "Spending wisely on charity is even more difficult than earning money. It is not difficult to give money away," says Koos van Oord with a smile. "Water development projects in the third world are the main focus of the family, while the company sponsors a wide range of social activities in countries where it is present. We try to find projects which have an impact."

SEASONED ADVICE What advice would Koos van Oord give to the next generation of family members who will be involved with the company in the coming decades? "To our family members I would say: follow your passion. They should be happy in what they do. If they are not interested in working for the company or if their studies don't fit the requirements of the company, no problem—let them find their own destiny. We will help them where we can. Second: be a responsible shareholder. And third: do not consider your shareholding as your property but as something which was given to you to take care of and hand over to the next generation in a better state than you received it. Don't forget your heritage, be compassionate to others and have fun."

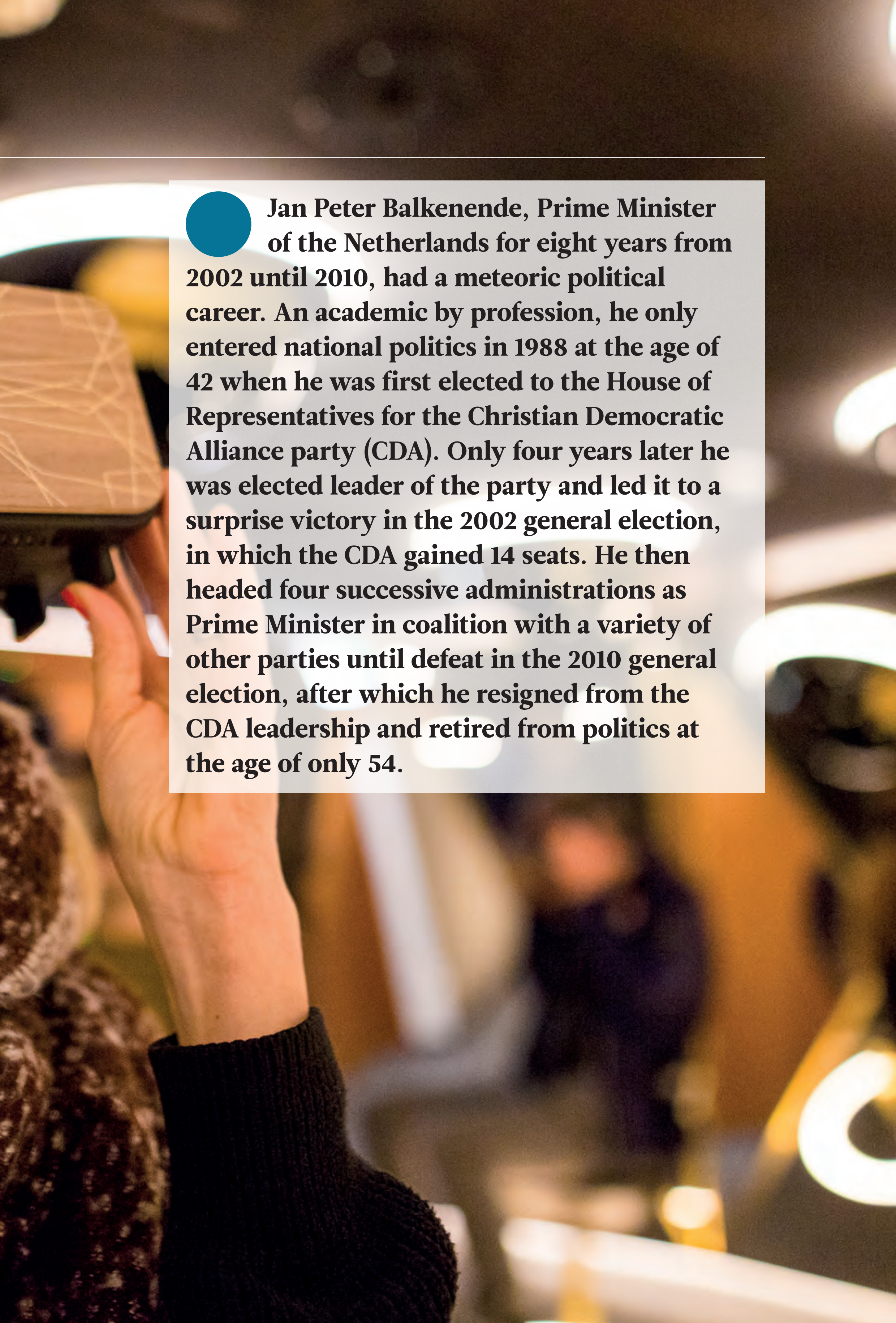
CHAPTER 7

Jan Peter Balkenende: The Responsible Society

INTERVIEW WITH JAN PETER BALKENENDE.
WRITTEN AND EDITED BY ROBERT LOW
Interview by The Owls team

The key factors in this case study are leadership, vision, concept, strategy, long term planning and execution

QUALITATIVE ANALYSIS: PAGE 191



Jan Peter Balkenende, Prime Minister of the Netherlands for eight years from 2002 until 2010, had a meteoric political career. An academic by profession, he only entered national politics in 1988 at the age of 42 when he was first elected to the House of Representatives for the Christian Democratic Alliance party (CDA). Only four years later he was elected leader of the party and led it to a surprise victory in the 2002 general election, in which the CDA gained 14 seats. He then headed four successive administrations as Prime Minister in coalition with a variety of other parties until defeat in the 2010 general election, after which he resigned from the CDA leadership and retired from politics at the age of only 54.

Dr Balkenende studied economic and social history and law at the Free University. He started working at the Netherlands Universities Council, the united body of Dutch universities, and went on to become a staff member for social, economic and financial policy at the Wetenschappelijk Instituut for the CDA, the party's Research Institute. He was also a member of his City Council, Amstelveen. After some years he was invited to undertake a PhD: the subject he chose was Government Regulation and Civil Society organisations. He was granted his doctorate in 1992, and the following year he became part-time Professor of Christian Social Thought on Economy and Society at the Free University in Amsterdam.

Since leaving politics, he has returned to the academic world as well as pursuing a career in business. He became a partner in Corporate Responsibility at the global consulting and accountancy firm EY (formerly Ernst and Young) and he is currently an external senior advisor to the company. He is also a supervising board member of ING, the Dutch banking and financial services corporation. In addition, he is Professor of Governance, Institutions and Internationalisation at Erasmus University, Rotterdam, and he is involved in the Goldschmeding Foundation and several other foundations.

During his eight years in office as Prime Minister of the Netherlands, Dr Balkenende made the encouragement of innovation a government priority. In February 2018, he talked to the Owls team about how he went about it.

VISION/CONCEPT

"For me there are three important stages. The first is in the 1980s, the second is the Innovation Platform (set up by the Balkenende administration) and the third one is what I am doing now.

"My party, the Christian Democratic Alliance, started in 1980. It was a combination of a Roman Catholic and two Protestant parties. In the 1980s, the CDA was busy with the concept of a responsible society and formulated its basic principles in 1980—Public Justice, Differentiated Responsibility, Solidarity and Stewardship—but in the 1980s we were thinking about how we could work out that concept: what it meant for different policy sectors, for education, family policy, economic affairs, social security issues and so on. One of the items on the agenda was the issue of technology. In those days we talked about the new world in which we were living.

"We spoke about Alvin Toffler and his book *The Third Wave*, just to give one example. Or John Naisbitt's book *Megatrends*. People realised in the 1980s that something was changing so we discussed technology and innovation. We started with a working group, a study committee, and that led to the publication in 1987 of a report with the title: *Technology in a Responsible Society*. Some of the group had a political background, and there were also people from the universities, from the business sector, and from the unions, and together we addressed the question: how can we have a clearer focus in policy-making on technology, on innovation, in a responsible society? We discussed what it meant for education, for the business sector, for growth strategies. That was my first experience. I thought it was fascinating to think and talk about technology.

"Our think tank was an independent organisation but of course we were connected with the Christian Democratic Alliance. So it was not only a matter of writing a report, but of organising conferences about the issue, and it also led to discussions within the CDA. Later, there was a follow-up in election manifestos and so on. I had a great time with a great team of people in the think tank and at that time we were really focusing on the issue of technology. Just underlining the fact that we had such a steering committee said something about the atmosphere within our party: we felt that we had to do more in the sphere of innovation and technology.

"The political landscape in the Netherlands was changing. There were new political opportunities, I had to fill the gap at that moment, and we won the elections in May 2002."

"Then in my PhD thesis I also included innovation. At that time we discussed how we could have a better policy regarding innovation issues. Should we have new institutions, innovation centres? Or could we use, for example, the Chambers of Commerce, etc? That was one part of my PhD thesis.

"The second stage seems to me the most important one: the Innovation Platform. I had been a member of parliament since 1998, and I was the party's financial spokesman. I was involved in social security issues as well and then I became the leader of the Christian Democrats in 2001, after an internal party crisis only eight months before the elections. The political landscape in the Netherlands was changing. We saw the end of the life cycle of the purple coalition, the coalition of the Labour party and two liberal parties. There were new political opportunities, I had to fill the gap at that moment, and we won the elections in May 2002.

"That accounted for the concept of a responsible society – for doing more in the spirit of innovation with the Innovation Platform and that accounts for sustainability and sustainable-goal business models."

"At this point, I should say something about the atmosphere I was confronted with. You could see that there was a willingness to change things. Usually you only become Prime Minister if you have been a minister before that. But for me it was completely new. I became Prime Minister after I had been a member of parliament for only four years, which was remarkable. I did not have any government experience but I had a clearly defined agenda. That was my advantage, as a thinker, as a former staff member of the think tank. When we had a previous crisis in my party in 1994 we lost 20 seats. We set up a working group which produced a report called: *Nieuwe wegen, vaste waarden (New pathways, fixed values)*, meaning that you must have stable values but you have to find new ways of thinking. I was the secretary of that working group. If you have difficulties always go back to the question: what is the DNA of our party? What are our core values? What do these values mean for renewal of thinking, of your own party? I think it is good to discuss new ideas, because it stops the party from acting as if, when you have such a crisis, it is only a matter of personal differences. You have to find something new, and the best thing you can do is go back to your party's DNA, to your values and to finding new ways of thinking.

PLANNING AND EXECUTION

"In 2002 it was the end of the purple coalition. We were also confronted with the terrible killing of Pim Fortuyn. I knew him very well. Suddenly everything was changing. I won the elections and suddenly I was Prime Minister. But there was a need to have a new kind of stability because it was a risky time. People were not happy. They were saying, 'I have to wait too long for my operation. My parents cannot get the right care facilities. Sometimes we don't have teachers in the classrooms.' That was the moment we said, 'We have to change things.' The first thing we said is we really have to carry out a programme of reform. We have to change our social security system and pre-pension facilities. We have to change the Dutch health system. That was one agenda—the reform agenda.

"The second point I made was that it was important to talk about values in society. It was necessary to underline the essential component of values in society. It was necessary to talk about how people behaved towards each other. What about showing respect for others? What about dignity in society? Can children grow up in a safe world?

"Respect was the key word. Later on Dutch organisations started the initiative 'Day of Respect'. I thought it was necessary to talk about it. I was criticised when I did so—'Ah, he wants to go back to the 1950s, it's an old-fashioned approach.' But outside the square kilometre of The Hague people understood what I meant. They said indeed we must have a safer society, a society with a heart. So that was the second component.

"The third one had to be financial policy. We had to make a lot of savings.

"The fourth dimension was innovation.

"My second coalition consisted of my party, the Christian Democrats, the more conservative liberal party, the VVD, and D66, the social liberal party. Together we were convinced we had to do much more in the sphere of innovation. Why? Because the Netherlands was falling behind. In 2002 we were confronted with financial and economic difficulties, an economic slowdown, and we were falling behind the rest of Europe. We were sliding down the global competitive index of the World Economic Forum. We decided we should do much more to strengthen our position and the structure of our economy. We were also convinced that the world was changing.

"We could see there were a lot of new developments so we said we had to focus more on the issue of innovation and new technologies. Usually you invite a committee to give some advice to the government. We said no, we should do this another way. Let's have a completely new organisation, which we called the Innovation Platform. Representing the government we had the Prime Minister, the Minister of Education and the Minister of Economic Affairs. The second group consisted of high-ranking officials from the business sector, for example the CEO of Philips, but also people from the SMEs (small and medium-sized enterprises).

"The third group came from the universities. The idea was, let's learn from each other. This was not a traditional organisation. We would not meet in The Hague. We would go to universities or business. And we had to start from scratch. So there was not, in the beginning, a clearly developed agenda. We said, let's work together and analyse what the position of the Netherlands is. We discovered that we had to do many, many things.

"I will give some concrete examples just to clarify what happened. In the beginning it was a bit difficult to work out what exactly the agenda was, what we should develop in the way of new ideas. Gradually we discovered that we had some difficulties in the Netherlands. For example, we discovered that a lot of SMEs were not taking advantage of the knowledge of universities and knowledge centres. So we said we must develop an instrument that stimulates SMEs to benefit from the knowledge centres. We started an initiative called innovation vouchers. We gave financial support to SMEs, worth 7,500 euros, and they could use it to tap into those knowledge centres.

"The second thing we discovered was that for a lot of SMEs it was very expensive to do research. So we said we must have cooperation around research activities in the pre-competitive phase. We launched what we called Innovatie Prestatie contracts, innovation agreements, to facilitate pre-competitive research and development activities.

"The third example was that we discovered that research in the public and private sectors were separate worlds. We ought to have exchanges of researchers.

"Why did we start the Innovation Platform? It was all about strengthening the position of the Netherlands and focusing more on competitiveness. We had to have new ideas."

"We also said it is rather remarkable, we have lot of gas revenues in the Netherlands so we should also spend more on Research and Development (R&D) activities. That was more of a macro issue. We decided to organise a big event so that people could see things were changing, to illustrate what we were doing with the Innovation Platform, and also what we could learn from each other. So we had an Innovation Congress. I think there was room for 2,000 people and in two weeks it was fully subscribed. So the first phase of the Innovation Platform was analysing what the position of the Netherlands was, what could be improved, what actions we should take, and we organised many activities and events. That was one.

"The second point was that because of the fact that we had an Innovation Platform on a national scale it also generated enthusiasm at a regional level. When I was in Eindhoven or Utrecht or elsewhere you could see that regional innovation platforms were being developed. That was good and important. I am talking in an enthusiastic way about it, but we were also criticised, as it always goes, by members of parliament and the media.

"But we just carried on and the funny thing is, there was a professor, Ronald Plasterk, who was on television from time to time criticising the Innovation Platform. Why do I mention him? We had elections again in 2006 which led to a new government in 2007: a coalition between my party, the Christian Democrats, the PvdA (the Labour Party), and a small Christian party, the Christian Union. The question was: should we continue the work of the Innovation Platform? There was no discussion about it: yes, we should.

"Despite the fact that he had been very critical previously, Mr Plasterk became the first Vice Chair of the second Innovation Platform, and he played a fantastic role. The second Platform was again composed of people from the government—the Prime Minister, the Minister of Education, the Minister of Economic Affairs—people from the business sector, and also from NGOs and the university world. Then something remarkable happened. We said it's not only a matter of technology: we also should work in the sphere of social innovation. We formed a group that devoted itself to issues of social innovation.

"In the second Innovation Platform we said we had to define six key areas in which we could be strong in the Netherlands. How could we bring different groups together, logistics, for example, or agriculture?"

"We also decided we should be more specific about innovation in the sphere of health. So there was a separate platform for innovation and health. We thought we should have more head offices of big companies in the Netherlands. How could we make the Netherlands more attractive to them? We also discovered that a lot of people from other countries had difficulty entering the Netherlands. When you wanted to attract knowledge workers, it was difficult.

"So we said we had to speed up the entry procedures for them. We also said innovation is a matter of imagination. Hans de Boer, who is now leader of VNO NCW, the employers' association, was busy with the idea of creating a tulip-shaped island in the North Sea.

"Everyone said it was a crazy idea but the idea was that we were strong in offshore developments, so when he came up with this idea to have a tulip-shaped island in the North Sea, it attracted publicity all around the world. So you could see that the second Innovation Platform was attracting attention and we were discovering how we could change things.

"In the second Innovation Platform we said we had to define six key areas in which we could be strong in the Netherlands. How could we bring different groups together, logistics, for example, or agriculture? We were strong in those sectors. So the idea of defining those key sectors was to make the Netherlands stronger by focusing more on them.

"That is the general story of the Innovation Platform. I was happy that we took the initiative to do it. It resulted in a lot of actions, more than 180 of them. And it generated new ideas. It also had consequences for policymaking, for example financial ones. There was the issue of how to spend more money on research and development.

We wanted to spend a part of our gas revenues on research and development, just to give one example. It had to do with the universities' financial streams. We had responsibility as a government, so we wanted to manage the follow-up of the ideas of the Innovation Platform.

"But universities and business were involved too. Today, for example, we say if you want to be successful in the sphere of innovation, you must have triple helix constructions, meaning you must have cooperation between government, knowledge centres and business. In fact, the Innovation Platform was a triple helix avant la lettre.
"I ceased being Prime Minister in October 2010 and we had a new government under Mark Rutte. Unfortunately they did not continue the Innovation Platform. My idea was to have a new platform, not on general ideas because that had existed for several years. Our idea was to have another platform more about execution and implementation. But the government decided not to have a new Innovation Platform.

"They said, instead of the key areas, they would start with a top-sector approach. This meant that the government defined 10 top sectors which play a key role in the Dutch economy. It was a matter of combining forces, generating new ideas, public support of private initiatives. In fact, that was in line with our recommendations. I my-self continued to be active in the sphere of innovation. Since then the Netherlands has reached the top five in the Global Competitive Index. So you can see the influence of the Innovation Platform. It was a contributor to a greater awareness regarding innovation and technology.

GENERIC FACTORS

"I am involved in innovation today because of the connection with the whole concept of the new economy. We are living in a time of disruption, things are changing very rapidly. It is the world of 3D printing, nanotechnology, the internet of things, big data, robotics. There is a technical dimension and a social dimension, the sharing economy, social innovation, and it is a matter also of the moral aspects of innovation. This whole discussion around the new economy cannot be separated from the global agenda.

"If you talk about sustainability it must be an integral part of your mindset. You must have the awareness. But then the question is, what does it really mean?"

The global agenda has to do with sustainable development goals, climate change, and the circular economy. You can see so many changes at the moment that I think it is fascinating. How can innovation be relevant to finding the right solutions? From time to time I refer to Peter Diamandis's book, *Abundance—The Future is Better Than You Think*, a very interesting book with a description of all the global issues of today. His message is that we do have the technical means to solve them but there are too many vested interests and traditional forces that are hindrances to take advantage of these new solutions.

"Let me go back to my work in the 1980s. They were the first years of my party, the Christian Democrats. We were talking about what the basic principles of our party were, how we could develop a new view of society and what the concept of a responsible society was. It was a matter of thinking, having ideas, and then putting them into practice. That is exactly what you can see here.

"At EY, I am involved in corporate responsibility. That means that everything has to be done to fully integrate sustainability into business models. That is one of my key areas at EY. This approach starts with the conviction that it is not business as usual. There is a need to change. It starts with having ideas. What does sustainability mean for my company? Then it is a matter of developing this into a strategy. When you have defined your strategy, then it is a matter of implementation, execution. Then you have to evaluate. Then you have to report on it. And then the cycle starts again.

"When I look back at my career, it always starts with having new ideas. That accounted for the concept of a responsible society, that accounted for the fact that we had to do much more in the sphere of innovation, and that is the reason why we came up with the idea of an Innovation Platform. And now in the world of corporate responsibility it is a matter again of having ideas and vision. It is my conviction that it is not business as usual, there are reasons to change things fundamentally.

"If you are aware that things have to change, then the question is: what should you do about it? Then you develop views, strategies, make proposals, and so on. That accounted for the concept of a responsible society, that accounted for doing more in the spirit of innovation with the Innovation Platform and that accounts for sustainability and sustainable-goal business models. The idea, vision and disruption are key.

"And more than that: in this time of the new economy it is all about creativity, it is about new ideas, otherwise you can forget it. This is the key element. Companies can suddenly be there and they can disappear. The life cycle has changed completely. So you must have this awareness that you are living in changing times. And that, of course, is fascinating.

"Why did we start the Innovation Platform? It was all about strengthening the position of the Netherlands and focusing more on competitiveness. We had to have new ideas. We were convinced that there were many reasons to do more in the sphere of innovation. That was the general framework.

We had to start from scratch. That was the moment of innovation breakthrough, so we said hey, wait a moment. Our analysis was that there were not enough contacts between knowledge centres and SMEs.

How could we develop strategies, develop new ideas, to have a better connection? Just to give one example. That was the reason we defined many issues that had to be solved, and why we generated those ideas. That led to a kind of concept, which I have described. That accounted for the first and second Innovation Platforms. Later on sometimes it had to do with government responsibilities, then it had to do with universities' and business' responsibilities.

CURRENT GOALS

"I would like to move on to two things I am faced with now. First is the Dutch Sustainable Growth Coalition and the second is business models. When I started work at EY, Paul Polman and I discovered that we had a lot of Dutch companies that are high on the Dow Jones sustainability index. That was the moment we said we should join forces. How could we work together? The idea was to reflect together on sustainable growth business models. How can we fully integrate sustainability into business models? What can we learn from each other?

"We produced four reports. The first was about these business models—a theoretical framework, then examples. What are the indicators? Sustainability has to do with climate change issues, environmental issues, energy, human rights, transparency, your relationship with your employees and your clients—these are all elements of sustainability. That was the first idea, how we could integrate sustainability components into business models. And let's be concrete.

"The second question was, and that is also connected with this model: what does it mean for leadership and corporate governance? How do you organise this type of thinking within your own organisation? What does it mean for the tone at the top? What about ownership within the organisation? What about remuneration systems? What about business strategies, what about defining your key performance indicators (KPIs), what about measurement of—and reporting about—these activities? But there is another element: how to foster a culture of responsibility, how to improve awareness: what you might call ownership within the organisation.

"Then there is the creativity of your own organisation. For example, I was once listening to Pieter van Oord, CEO of Van Oord, and he said, in relative terms we do not spend so much money on R&D. You can criticise us for that but we benefit from the creativity of all our workers. It was very interesting. They use the knowledge, expertise and creativity of their own employees for their organisation.

"In my opinion it is a matter of how you change the mindset and how you change the mainstream. I am convinced that the role of business is changing."

"Let me say one more thing about the Dutch Sustainable Growth Coalition. The third issue we raised was sustainable innovation. The question was: how can companies contribute to the sustainable development goals of the United Nations and to the issue of climate change? It was a very interesting report because the question is: what can we do about it? I am convinced that asking yourself the right questions is key. Let me give you a concrete example. About two years ago ago I attended the World Entrepreneur of the Year meeting of EY in Monaco. There were famous CEOs—Ford Motor Company, Starbucks, Coca-Cola, WPP and the rest. The key question to all the CEOs was: what is your legacy? How are you contributing to society? And then you get another conference. Raising the right question can be very helpful.

"It is also a matter of how to organise things. That is why the business model is so key. That brings me to my second point. Everyone is talking about sustainability. But the question is, what does it really mean for your approach as a company? This is a fundamental process. If you talk about sustainability it must be an integral part of your mindset. You must have the awareness. But then the question is, what does it really mean? Are we talking about the values of our company? Is there a connection with the business strategy? What does it mean for your KPIs? Do you have a stakeholder dialogue about these KPIs? Is it an honest story? Then it is a matter of how to implement your goals within your own organisation—organising critical mass. I think these things are really key.

"Peter Bakker is the president of the World Business Council for Sustainable Development. Once he gave an interview, which was headlined "Accountants will save the world." You can imagine, we were very happy with that quote. But it was not so much about accountants. It has to do with the fact that if a company is saying we want to integrate sustainability into our business model, we will change our KPIs, then the question is what about the concrete results: is there awareness to measure them? And are you willing to ask an external auditor to analyse them? Is it a true story? It is a matter of organising it in the right way. There we have the circle.

ENABLING FACTORS

"A concrete example in the Netherlands is AkzoNobel. Together with DSM (the Dutch chemicals and nutrition conglomerate), AkzoNobel is a leader in the Dow Jones sustainability index. They are highly respected sustainable companies. For example, AkzoNobel produces coatings that can partly keep out the heat of the sun so that you need less energy for air-conditioning systems, and coatings for ships, so you can have the same speed using less energy. There is a connection between sustainability and products. They are also connected with the Human Cities Coalition. At the same time, they were confronted with PPG, who wanted to take them over (in 2017). So we have a struggle between sustainable business practices and the hard world of takeovers, financial interests, and shareholder value. But at the same time things are changing.

"Last year I was invited to speak at a conference of the Singapore Institute of Directors. A thousand people were there. It was all about the question: what do sustainable development goals mean for our businesses? You can feel things are changing. You have front-runners, and you have people that are lagging behind. People like Paul Polman, Feike Sijbesma (head of DSM) and Frans van Houten (head of Philips) are leaders. They will change the world. In my opinion it is a matter of how you change the mindset and how you change the mainstream.

"I am convinced that the role of business is changing. In my presentation I usually refer to Milton Friedman saying in 1970: "the business of business is business". Today it is Michael Porter (the American academic) who is saying: "No, it is a matter of creating shared value". A company is there to generate economic value, otherwise you cannot exist, you cannot invest in R&D, you cannot keep your people

LESSONS LEARNED

Always be aware of the DNA and values of your organisation.

Use the creativity of your organisation and its people.

Try to make a connection betweenh the Sustainable Development Goals, Climate Change, the Circular Economy, the New Economy and the Moral Dimension.

If you have analysed things well and have the conviction to carry out reforms and implement new ideas, stick to them.

In order to be successful, especially when it comes to innovation, it is essential to cooperate with other organisations and sectors. Invest in new alliances with relevant stakeholders.

Leadership requires long-term thinking. In order to accomplish change, you need to develop a long-term view.

employed. At the same time you are there to create societal value by addressing the needs of society. And you have to combine these two components. I believe that this is a new reality.

"Partly it is a matter of defining long-term goals. If you want to review your CO2 emissions, you can try different rules to reach that, but that is the goal: we want to reduce our CO2 emissions. Or you want to only have clean energy. These things can be part of your organisational strategy. These are the longer-term goals. But then you can put the other question: how do you achieve them? That is a matter of instruments, and also of scenarios."

"Has the Innovation Platform led to new ideas? One element you can see now more and more of in the Netherlands is start-ups, because start-ups are all about generating new ideas. They are all about creativity. Traditionally, a company like Philips has been interested in start-ups for a long time. They offered facilities for start-ups to do their business and they had connections with them. In the province of Limburg we have, for example, the Brightlands Chemelot Campus (which describes itself as "a creative breeding ground for innovation in smart materials and sustainable manufacturing" and hosts 2,500 people engaged in a variety of innovative activities).

"A lot of start-ups are active in the sphere of smart materials. At the medical faculty of Leiden University, you will see a lot of start-ups in the sphere of health. In Rotterdam we have three initiatives: the Erasmus Centre for Entrepeneurship, the Cambridge Innovation Centre (CIC), which has to do with start-ups; and PortXL, which is encouraging start-ups in the sphere of port development.

"We have food initiatives at Wageningen University. And we have energy-focused start-ups in the Northern region. Today there is a kind of admiration for start-ups. The problem is that a lot of start-ups fail, because their innovations and ideas do not lead to a scaling-up of activities. That is the reason why today we are trying to develop connections between the big corporates and start-ups. That is the model you can see now in Eindhoven, in Limburg, and in Rotterdam. This is increasing and people really like those new ideas, that creativity."

Why have the United States been so successful in innovation, often from individuals developing their ideas, like Google which was started by two young men. Why haven't the European countries with all the money spent on innovation been able to come up with something as dynamic as that?

"I think it has to do with the American spirit, entrepreneurship. There is an economic dynamism in the US, that is their big advantage, in Silicon Valley and all the other initiatives. We can learn from that in Europe. Although we have good universities and good companies, so much more can be done. We need a kind of new European dream. In the 1950s, after the Second World War, political leaders said that should never happen again. They focused on creating a European economy and economic cooperation to create a better life for people.

In the 1980s politicians and economists said yes, we have a tariff union but we do not have a real single market. That led to the strategy of Europe 1992 with the free flow of goods, capital services and people.

"All this created a kind of new dynamism. Then people said Europe is the place to be, here you can find the world's biggest consumer market. Everything went well until 2008. Then we had the financial crisis in the US but a year later it was no longer about the US, it was about Greece, Ireland, Portugal, Spain, Italy and France. People said, what is happening with Europe? Is it a museum? Now things are going better. But it's not enough. We must have a new European dream. Europe can really make a difference when we act on sustainable development goals, climate change or the circular economy. We should do much more on that. We need a new European mindset. And it will help if there is a leadership that enables it, that thinks in other terms about Europe. So far it has been too defensive.

LEADERSHIP

"Leadership has to do with long-term thinking. I would like to underline the necessity of that. If you talk about leadership and politics sometimes it is only about what is in the news today, what are the polls saying, what about the next elections? This era requires something completely different. You must have a long-term view. Let me give you some examples about the Netherlands today. At this moment we are engaged in a big discussion about the future of producing gas. Production is declining. That means that the revenues for the government will go down and you have to think about the structure of your economy in the longer run.

"The second example is climate change. We have to protect ourselves against the strength and the power of water, the rising sea levels, the melting of the ice caps in the Alps, and so on. So we must have a very good strategy to keep our feet dry to protect ourselves. We are all concerned about global warming. We say it must not be higher than 2^0C and even better 1.5^0C but if you believe this is a long-term goal, you have to act now. Then we have the issue of the ageing of the population. It has consequences for the pension system, for health, for housing, etc. We have a very plural society. What about respect in a plural, very diversified society? These are key issues. They require long-term solutions.

"The good thing is that we have the instruments to improve long-term thinking. For example, we have the Central Planning Bureau in the Netherlands. They analyse longer-term issues. If a political party makes all kinds of promises, it is confronted with the Central Planning Bureau. They will ask what the long-term consequences of its policy programme are. When you have a new government, the CPB will ask what the longer-term aspects of its proposed policies are. These are good things. We have the Wetenschappelijke Raad voor Regeringsbeleid, the Scientific Council for Government Policy, and they too are doing research into future-oriented issues.

"We have the Sociaal en Cultureel Planbureau, the Netherlands Institute for Social Research and the Central Bureau of Statistics, and they too are analysing what is happening in Dutch society. I think these things help. If you talk about leadership the key element is, do you have a long-term view, a long-term approach? And how can you make connections between long-term strategies and the steps that have to be taken now? I also like the phrase 'a serving leadership'. It is not about you as a leader, it is about serving society.

"What sort of leadership is required: structured or non-structured? Some people say you need both, but quite a lot of people say no, you just need a vision and a strong leader.

"I was chairman of the International Advisory Board in Rotterdam, and we had a discussion about how you can connect different elements. In this respect we used the wording oxymoron, meaning a combination of contradictory words. For example, a bottom-up strategy is an oxymoron. Bottom-up means to take advantage of start-ups, of new ideas, of creativity. But at the same time you must have some kind of structure. So a phrase like bottom-up strategy means to benefit from unstructured ideas but at the same time to try to have a kind of structure that enables you to make use of those ideas. So you need a combination.

"My leadership, as Prime Minister, was content-driven. I was not very well known when I became leader of my party in 2001. So in the beginning I had to do a lot of television programmes and sometimes I thought: What am I doing? But after that first phase when people got to know me, I said I want to make really good speeches about what must be changed in the Netherlands. So that was about content.

"Then I said I want talk about our competitiveness in the Netherlands, I want to speak about reforms, I want to talk about the migration issue, I want to talk about the country's international position—that was my answer to my new position as leader of the Christian Democrats: let's talk about content, what should change. When I became Prime Minister, of course I didn't have much experience. I had never been a minister before but I had a clearly developed agenda. That was the reason why we made a success of our reform policy, and despite the fact that we were criticised by so many people, by unions and economists, we managed to carry out those reforms together with our social partners.

"Another example: in 2004 I was in hospital for four weeks, it was a tough time. There was a demonstration organised by the unions in Museum Square, Amsterdam, and they were saying: oh, this government is a horror cabinet, etc. That was what people saw from the outside. But with other ministers I had confidential meetings with the unions to say we must change things and we have to work together.

"So the people thought, hey there is a kind of struggle between the unions and the government but at the same time we were having internal meetings with the employers and the employee associations to find a way out. On the basis of those contacts, we were able to reach a social agreement with our social partners. So we carried out the reforms despite the initial criticism, and that was a great result. You need each other to change the nature of things."

LONG-TERM PLANNING

"I am convinced we need targets on the horizon. That goes for the Netherlands, for Europe and for the world. I had lunch with the current ambassador of China to the Netherlands, and I asked him to tell me a bit about the 19th party congress. He said yes, it was an interesting congress, it was about the future. It has two stages: the first stage is till 2035, and the second stage till 2050.

"In France, they have elected a President with a clearly defined reform agenda. I am happy that Macron is trying to change things in France, that is good. It is a matter of showing courage.

"I have tried to say something about what keeps—and kept—me busy, but also something about today's global agenda: the Sustainable Development Goals, climate change, the new circular economy, but also values, purpose, legacy—these things are really key now. It's all about our planet, a better world, and creating conditions for a better life for everyone, now and tomorrow."

ANNEX 1

Qualitative Analysis

In this section we present our research methods and the qualitative analyses and graphs for the case studies.

WRITTEN, AND WITH GRAPHICS BY, THEO BOSTERS

RESEARCH

The underlying research of the Owls Project is a study of the generic factors that play a role in innovation and breakthrough processes. By processes we mean the trajectory in stages from idea to realisation. In this research project we seek to determine whether generic factors played a part in the successful execution of these innovation and breakthrough processes, and if so which ones.

We carried out over 26 case studies by descriptive and semi-structured research, and analysed them with additional qualitative research. Our starting hypothesis was that the assumed generic factors exist and that their role in an innovation and breakthrough can be observed and tested.

The case studies are the result of desk and field research, with the field research carried out in qualitative semi-structured interviews. We carried out an additional qualitative analysis for each study with the aid of software. For these analyses, the theories of Juliet Corbin and the late Anselm Strauss (2008) were used, as well as QI Macros© software (KnowWare International, Inc).

By applying this specific software, it was possible to unambiguously examine large data sets in a short period of time. For this it was important to make use of an open and proper coding of the data.

To ensure that the semi-structured interviews for each case study were carried out with the same qualitative approach, they were guided by a template that focused the interview on the generic factors involved. This template provided a structure for the desk and field research (interviews) with open questions.

Our starting point and hypothesis was to use the elements/stages of a conventional production/implementation process as a metaphor and label them as generic factors. In the first version of the hypothesis, six generic factors related to the process were chosen: idea and vision; innovation and breakthrough; concept; mission and strategy; planning and execution; and the iterative process.

In order to make sure that the correct choices were made, five cases were tested and it turned out that the defined generic factors worked well. In the course of the research, it also became apparent that three additional factors play a frequent role. We call these the enablers: human factors, environmental factors/capabilities, and the window of opportunity. The generic factors were grouped into: the creative phase, the operational phase and the enabling phase.

ANALYSIS: BY SOFTWARE AND BY ASSESSMENT GROUP

On the basis of open and axial coding the generic factors were enriched with related terms (topics), so that all case studies could be equivalently analysed by the software. Next, the chapters and complete interview transcripts were inserted and analysed by the software. To ensure the integrity of the interpretations, three case studies were analysed on the basis of either the chapter or the interview transcripts.

This comparison showed similar patterns and no significant differences in the results. We could therefore assume that the write-ups of the case studies were faithful representations of the interviews.

The software analysis measured the presence of generic factors (enriched with related key terms) as described in the case studies and interviews. This analysis computes the extent to which the factors are named and discussed, which implies the presence or importance of a given generic factor and the extent to which the organisation is aware of this. To compare the different case studies, the software examined the extent to which a given generic factor, including the related key terms, occurs in each case study per 1,000 words. The number of words that were counted was translated into a percentage, in which 5 words or more were translated to the maximum of 100 per cent.

This analysis uses the software of QI Macros© to measure the presence of each generic factor, including the topics derived from them, without assessing its impact on the innovation or breakthrough process.

This analysis can be seen as qualitative analysis techniques that involve a strong use of quantitative analysis approaches such as word count (cf. Leech and Onwuegbuzie, 2007, 2008) and intrasample statistical analysis (Shaffer and Serlin, 2004).

The advantage of this is that all case studies are analysed in the same way and are comparable, regardless of the length of the chapters and transcripts. The extent of the impact of each factor, however, is not fully demonstrated in this way. The software analysis supplements a human qualitative analysis by an analysis group who analysed the case studies with understanding of their full context.

An assessment group of five members analysed the cases for the extent to which the generic factors have influenced the innovation and breakthrough process (impact). This analysis reflects the averaged analysis from the members of the assessment group. In principle, this was a subjective interpretation: each member indicated the extent of influence that each generic factor had in each innovation and breakthrough process case study by entering a number on a scale from 1 to 5.

All scores are translated to a percentage where the maximum score of 5 is considered as a percentage of 100 per cent. The different analyses were compared and discussed and the members strove to arrive at a shared analysis.

The results of the software analysis and the final valuation of the assessment group are translated to a graphical model in which these results are represented separately.

These two different research methods have produced two separate data sets, which in turn can be compared. In this graphical comparison between the software analysis and the assessment group, we can observe some correlations in the patterns of the generic factors, which imply their importance or influence in the innovation and breakthrough process.

The results of both the research and the analysis of the data are verifiable. All data has been stored and analyses have been carried out unambiguously, and can be made available for review to anyone interested.

THE PROJECT DOES NOT AIM TO DETERMINE ABSOLUTE TRUTHS, but to provide information on and insights into the development of innovation and breakthrough processes in which the defined generic factors have played a part. The generic factors we chose to focus on are not meant to be exhaustive, but they emerge from a process-centric analysis of innovations and breakthroughs.

These analyses offer some universal insights into the role that the generic factors played in each process, without prejudice. The aim of this project is to stimulate further discussion around innovation and breakthrough processes and to make organisations aware of their importance so they can use this to their benefit.

GRAPHICAL MODEL

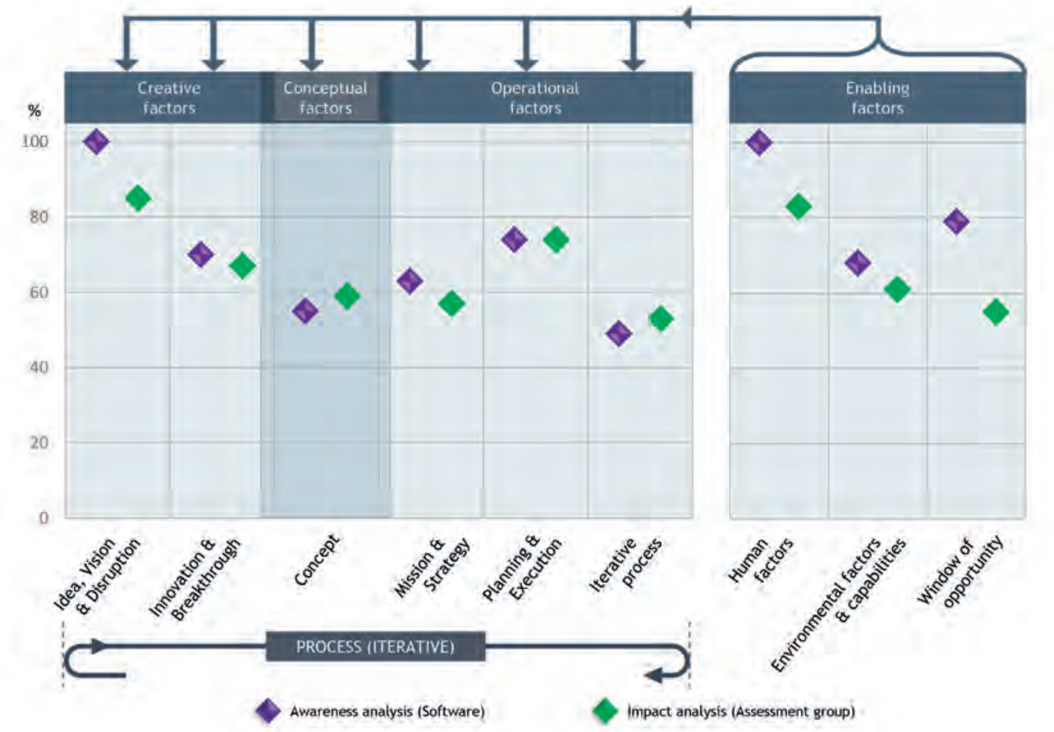
For the graphical representation of the results we made use of a model. In the model we placed the generic factors on the horizontal axis, and on the vertical axis the extent to which each generic factor played a role in the innovation and breakthrough process. Both the software analysis and the analysis by the assessment group are overlaid on the same scale, so that they can easily be compared.

EXPLANATION FIGURE 1

The analysis of the case studies reflects the values of the genric factors, both the awareness analysis and the impact analysis.

The purple diamonds reflects the awareness analysis. To compare

FIGURE 1: EXAMPLE GRAPHIC MODEL



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the different case studies, the software examined the extent to which a given generic factor, including the related key terms, occurs in each case study per 1.000 words . The number of words that were counted was translated into a percentage, in which 5 words or more were translated to the maximum of 100%.

The green diamonds reflect the impact analysis and indicated the extent of influence that each generic factor had in each innovation and breakthrough process in the case study by entering a number on a scale from 1 to 5. All scores are translated to a percentage where the maximum score of 5 is considered as a percentage of 100%.

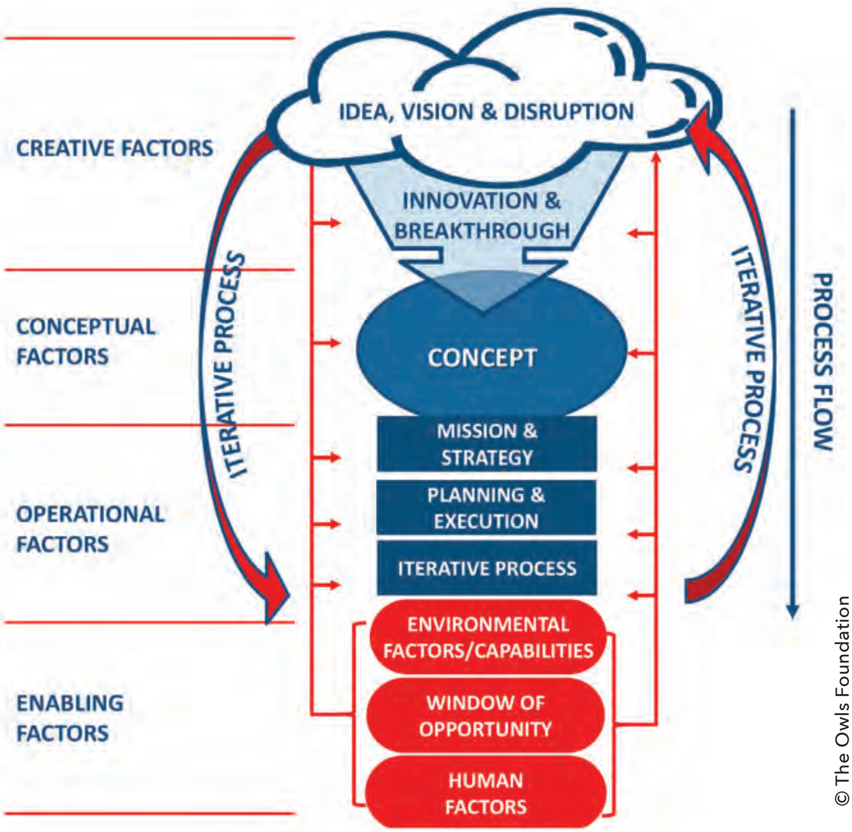

FIGURE 2: THE CORE OF THE OWLS BREAKTHROUGH MODEL: LINKING THE GENERIC FACTORS AND PROCESS. TRANSLATING WHAT WE WANT INTO HOW WE CAN DO IT.

THE OWLS BREAKTHROUGH DEFINITION CONCEPT ©

- integrated comprehensive model of aims and capabilities in a particular context to achieve the final target; it includes the whole set of goals and sub-goals
- is the basis for the masterplan for realisation
- the concept is realising the abstract
- the concept is the transition of theory towards execution

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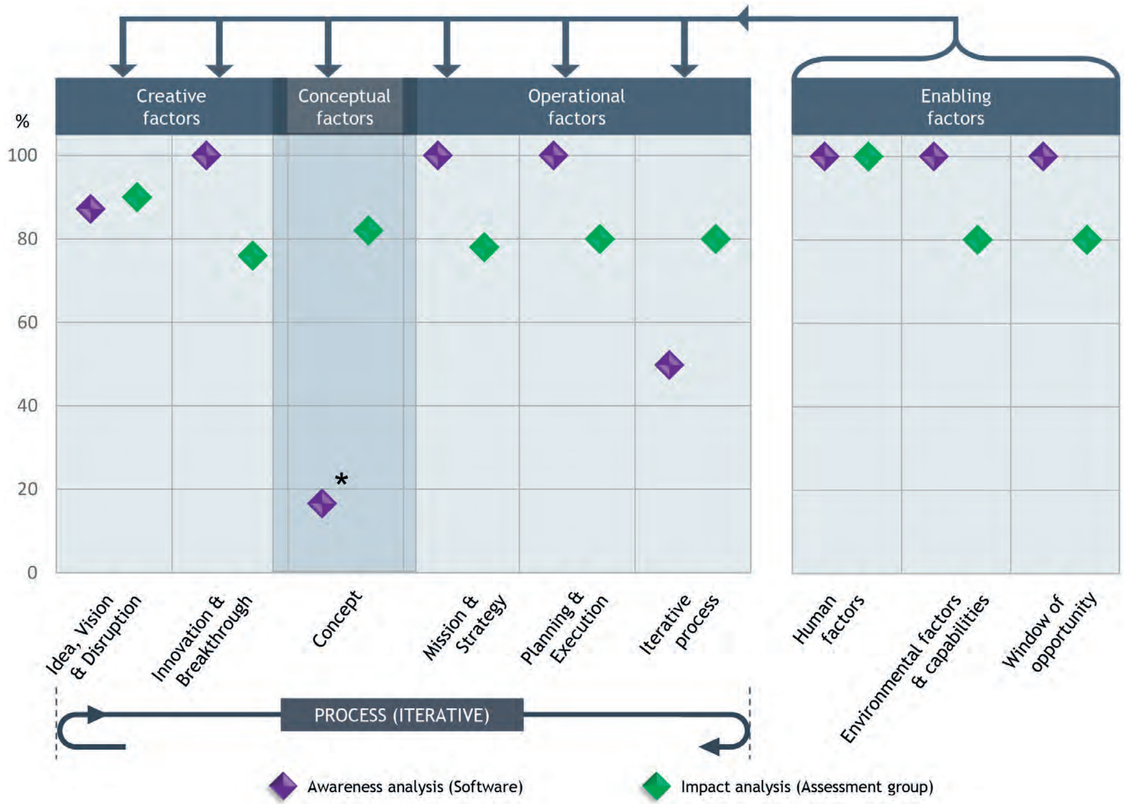
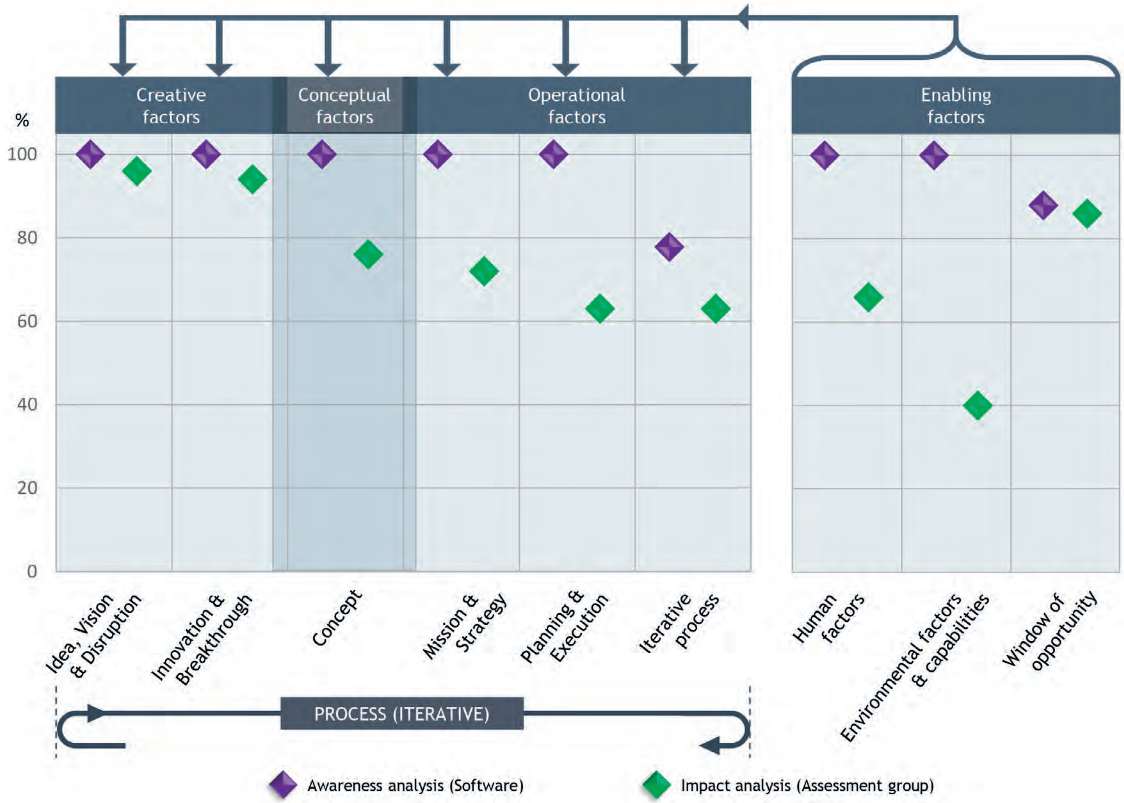


The GLF is a unique example of turning a global network into a pragmatic and useful organisation, and a very good example of how to make a vision a reality. It benefits from strong, charismatic leadership, and is an example of successful process innovation. The result is a lean organisation and operational efficiency. It is a low-key organisation, working largely behind the scenes, which means a big challenge for "silent marketing".

The important factors are vision, strong leadership [human factor], trust [human behaviour and environmental factor], concept, mission, planning and execution.

*** Note: the concept is intrinsically present in the minds of GLF management which acts accordingly, but does not translate into rationalisation of the awareness analysis as a result of the mismatch between the usual vocabulary of the management and the defined topic-list for the generic factor Concept. However, the concept is strongly recognised by the assessment group as an important generic factor in this case study.**

Chapter 2 The Circular Economy Page 24



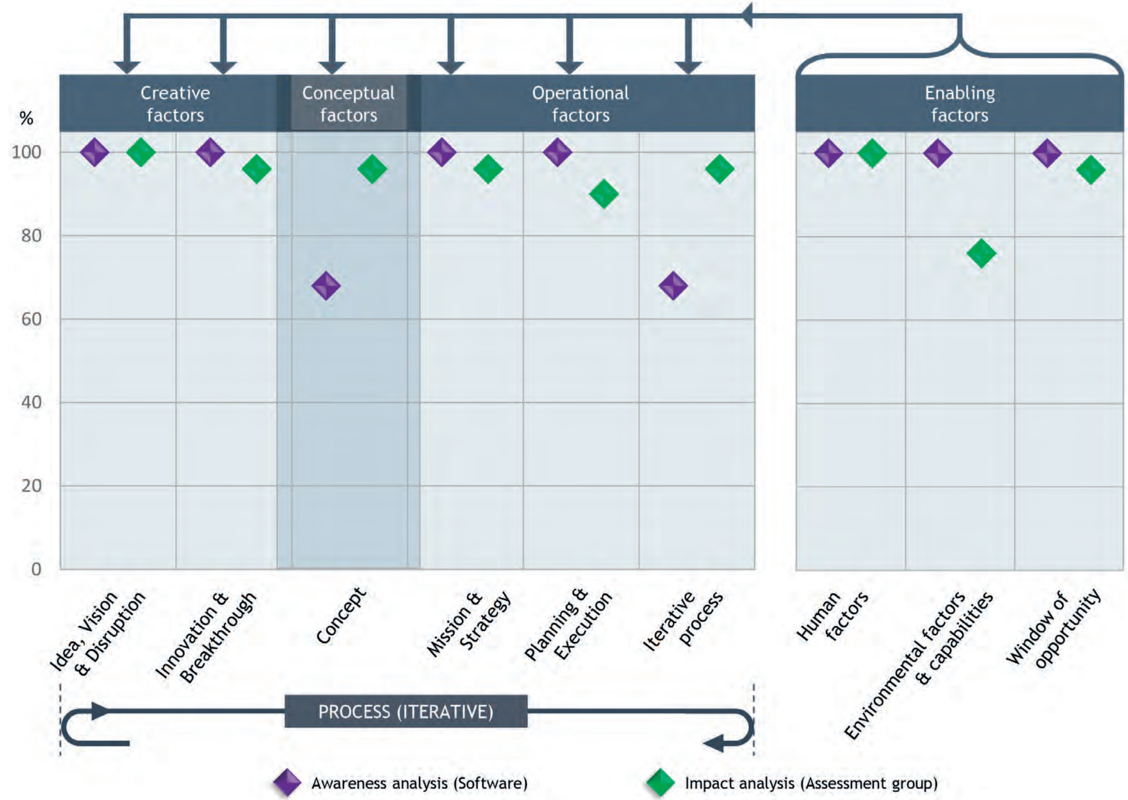
This is a challenging new vision, a new concept with new plans and strategies and the need to make it work. It applies the dictum "the circular economy as the new normal", a switch from linear to circular thinking, planning and execution. It's easy to say, harder to put into practice. The central question is: how are we going to achieve it? It has to be done by effective translation into achievable goals and sub-goals, resulting in proper execution and, above all, a society mindshift.

The double chapter focuses on the important link of entrepreneurship with education. The essential elements are: exchange of knowledge and shift of mindset. The aim: to make it work and create operational effectiveness. There is a need for multi-disciplinary crossover actions, and interchangeable plans between domains. It needs a strong concept and process to connect and/or steer all the resulting activities. At first glance, the concept is crucial: there is a clear split between vision and implementation which must be bridged. Partners need to be brought together to make coalitions. Nobody can do it on their own.

The important factors are: vision, concept, strategy, planning and execution, iterative process, including precise definitions of goals and sub-goals, the need for strong leadership and a "can-do" mentality.

Note awareness analysis [combined]: the lower score of "iterative process" in the awareness analysis is mainly caused by the new normal case study.

Chapter 3 Paul Polman: a Vision for Unilever Page 60

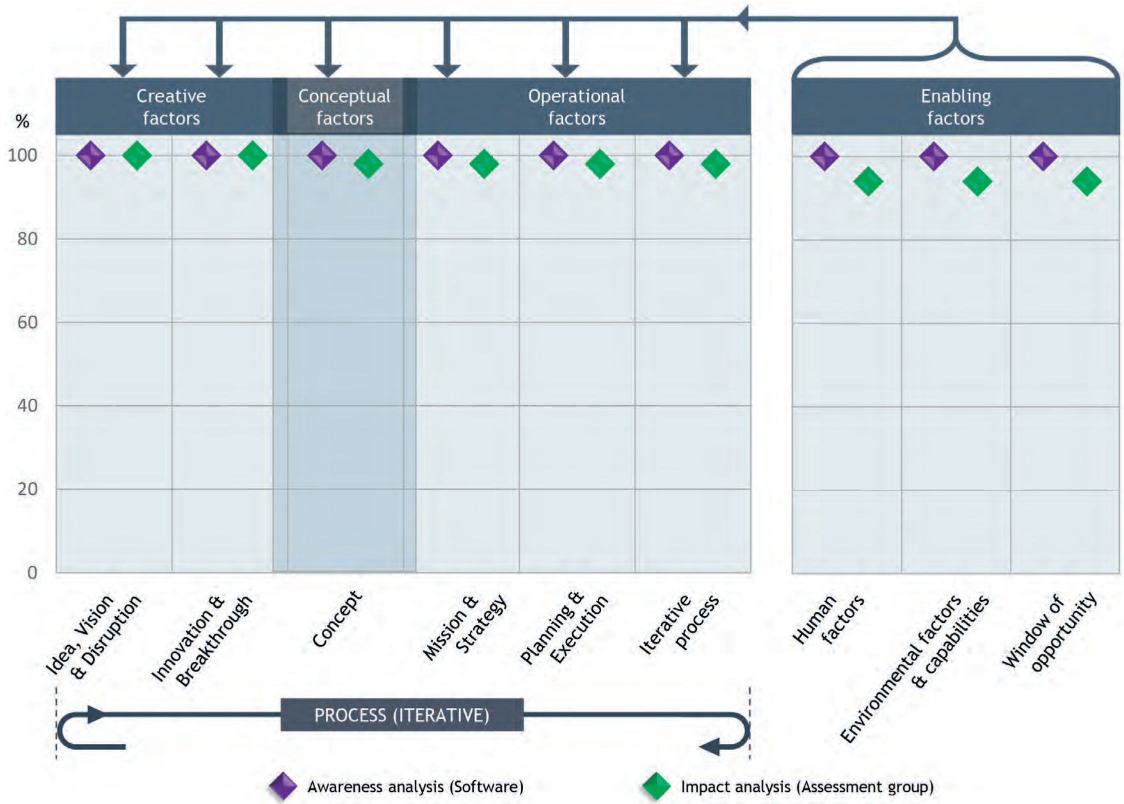


Unilever's Sustainable Living Plan is an extremely big and challenging project, extreme in terms of ambition as well as scope (impact), affecting billions of people. It embodies a strong vision linked to strong leadership, combining human drive and motivation (ownership) with a striving for operational excellence. It involves everybody inside the company (ownership) and outside: governments, NGOs, stakeholders and shareholders (environment). It is a highly complex project in the sense of execution because it also needs a societal "mindshift". A proper concept is key in which all targets and sub-targets have been identified and defined (see Annex: The Owls Breakthrough Concept) and ownership is transferred to the workfloor and to the field of operations. Its success will lie in the performance of many small actions which, taken together, will make a big difference in the end. This can all be brought together by The Owls Breakthrough Method, finding the mechanism and process to develop a clear vision and a creative and powerful concept, followed by an adequate planning and execution.

Key factors are: vision, innovative thinking, clear concept specifying all goals and sub-goals, strong planning and execution power, iterative process, strong enabling leadership (human factor) and environmental factors and capabilities.

Note: the slightly lower scores for the generic factors concept and iterative process in the awareness analysis relate to the way in which the software measures specific topics that are intrinsically present but are not mentioned extrinsically. The organisation does certainly act according to the results of the impact analysis by the assessment group.

Chapter 4 A Leadership prescription for Healthcare Page 76

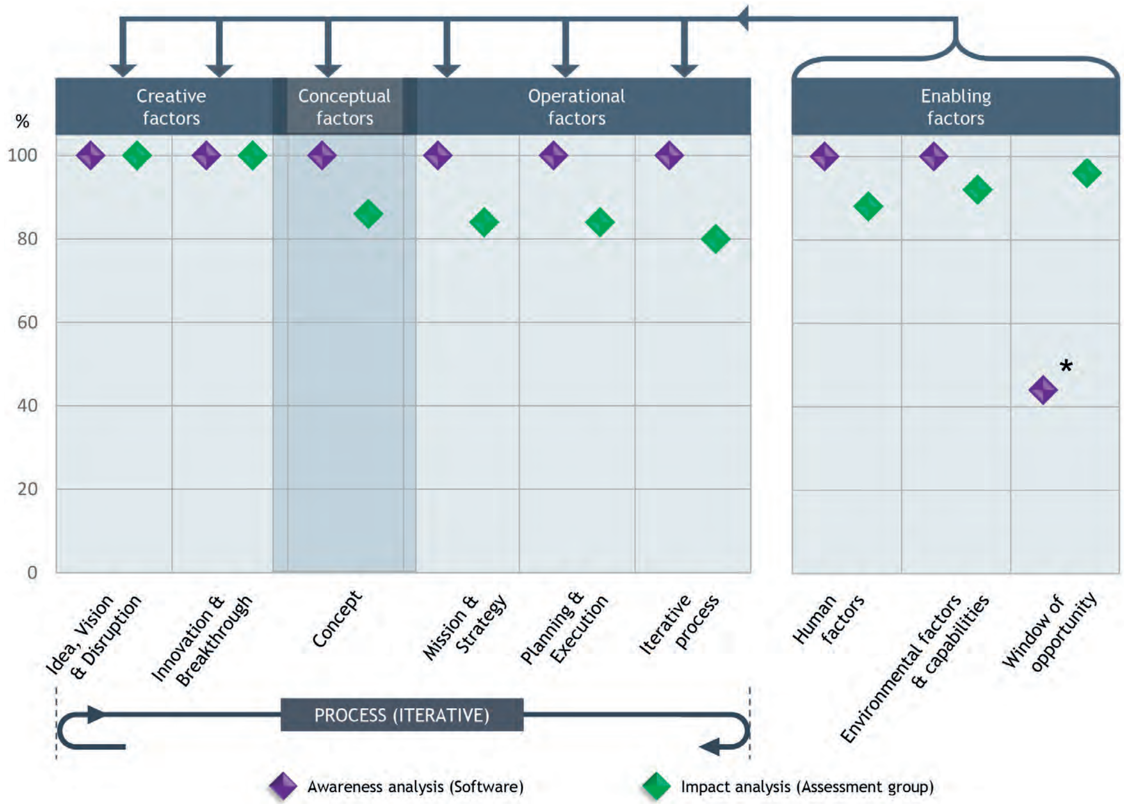


An excellent chapter because it makes clear that the challenge is to provide the right leadership in the right place, in the right context for the right reason, which often demands courage.

It describes great leadership, a shared vision, and a shared reality. This is coupled with organisational and operational excellence and high-achieving people. It attracted unanimously high scores.

This case study demonstrates that the authors breathe innovation and creating impact. That does not just show in the vocabulary the organisation uses. The Assessment Group, after carefully studying the case, also recognised it. The case study also clearly shows how leaders of organisations can take control of their innovation and breakthrough processes.

Chapter 5 Building the Future of Health Page 114

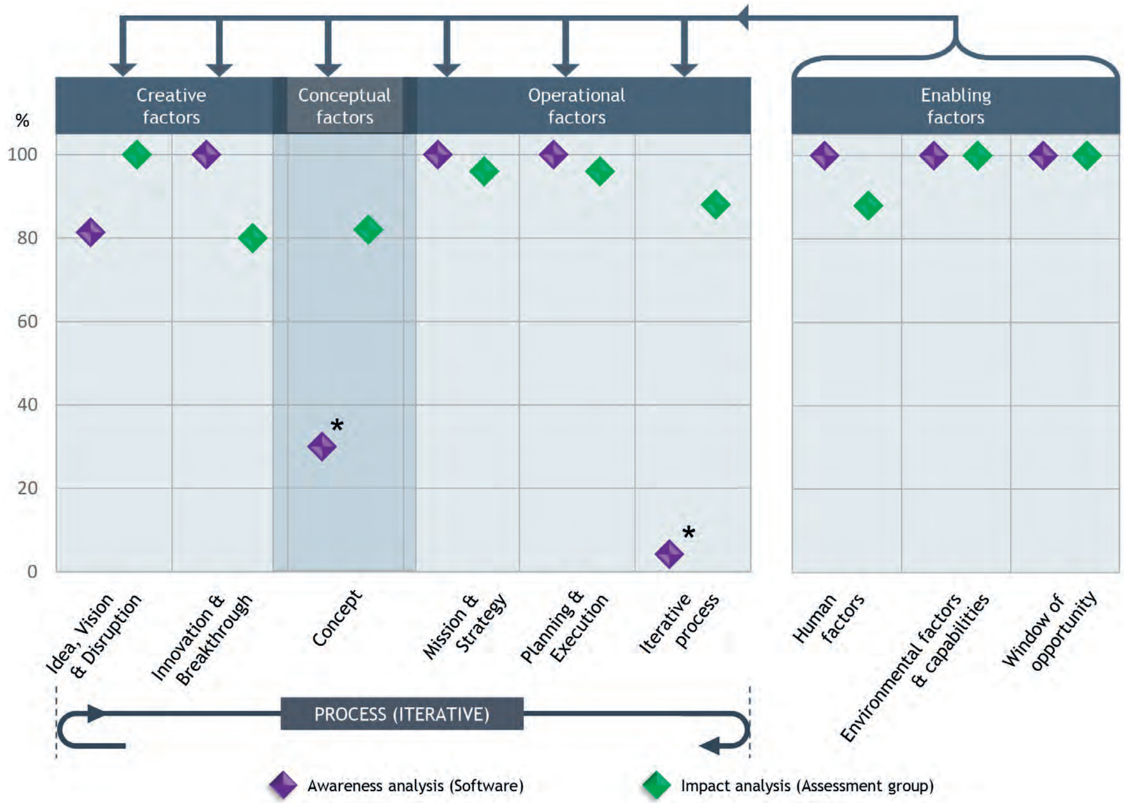


A clear paradigm shift from a "disease-focused" to a "health-focused" vision has taken considerable time and effort from its leadership to implement, and this will be continued in the near future, testing the leaders' ability to sustain their achievement. There have been significant successes both for the UMGC and the University of Groningen as a whole. The rapid conversion of key leaders has led to an acknowledgement that the UMCG is now a forerunner in current thinking about healthcare. Seen from a "helicopter" view, UMCG has made a far-reaching extension of its vision about where to go in the near future with a lot of creativity and innovation. The UMCG is aware that its ambition can only be realised by working in partnerships, both nationally and internationally, which it has so far organised effectively. UMGC also recognises that it will be a big challenge to achieve the goals it has set. Their realisation has to become part of the everyday agenda, based on a proper concept and masterplan worked out in specific goals and sub-goals striving for operational excellence.

The key factors in this case study are vision, innovative concept, mission and strategy, planning, operational output and leadership

* **Note: the generic factor window of opportunity scores lower in the awareness analysis than in the impact analysis. It relates to the way in which the software measures specific topics that are intrinsically present but are not mentioned extrinsically. The organisation certainly acts according to the results of the impact analysis, but do not use the specific topics in their vocabulary.**

Chapter 6 Van Oord: Dutch Marine Ingenuity Page 134



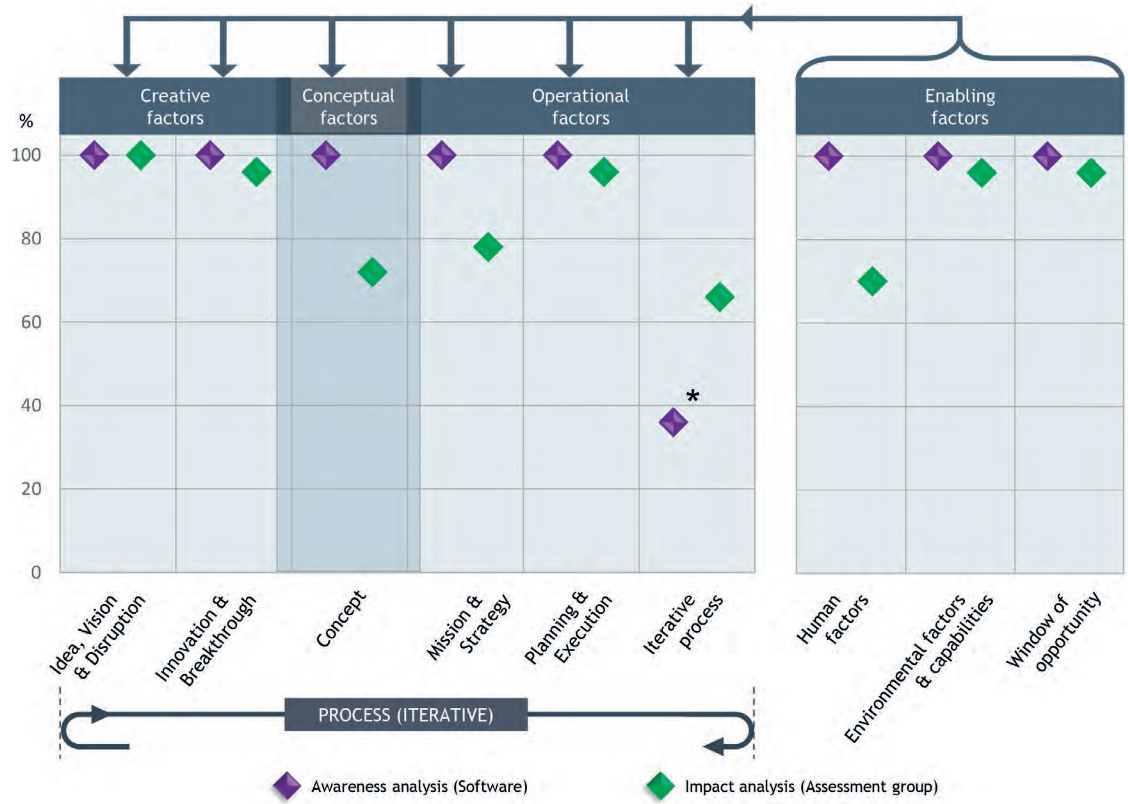
A great example of innovation through entrepreneurship, taking risks and seizing windows of opportunity, to grab opportunities when they occur. The company creates internal pressure to push innovation by accepting complex bids involving big risks. This company is an exceptionally smart operator, demonstrating operational excellence. There are many examples of in-company innovation, in equipment, logistics and projects. The three-pillar approach (dredging, offshore wind, offshore oil and gas), a result of strategic vision and policy, is the foundation of the company. The company constantly works on scenario planning to ensure it is well-positioned for the future. Leadership is extremely important. Continued management by the family and a focus on preparing the next generation for this is paramount.

Key human factors are: strong leadership, practical vision, window of opportunity, fostering entrepreneurial drive for innovation and a "can-do" mentality.

*** Note: this case study is a typical example of an operational excellence organisation that is strong in action. This is, however, not expressed in their daily vocabulary resulting in a lower awareness analysis. The assessment group does recognise the power of operational excellence, which explains the huge difference in the two analyses. The same applies to the concept. Van Oord is a hands-on organisation in which strategic plans are implicitly integrated in the operational plans. It has many years of experience and accumulated expertise and clearly demonstrates this in its implementation.**

*** Note: iterative process scores lower in the awareness than in the impact analysis because of the software measuring specific topics that are intrinsically present but not extrinsically mentioned. The organisation certainly acts according to the results of the impact analysis but does not use the specific topics of this generic factor in its vocabulary.**

Chapter 7 Jan Peter Balkenende: The Responsible Society Page 156



This case is a special one because it reflect the vision of a former Prime Minister who had to deal with innovations in his three governments. His experience was that thinking is one thing, but realisation another; translating thinking into reality is extremely difficult, especially with goals that demand a mindshift in society. One of the key messages is that process innovation needs to be directed from a strong centre point, creating the adequate concept, feeding the missions, strategies and plans to achieve the envisaged impact. Identifying generic factors for that process is the key for success. It also stimulates working with partners and forming coalitions. The key is long-term thinking and planning related to strong leadership.

* **Note: the generic factor iterative process is not applicable because a PM and the government he leads are not involved in the operational process.**

ANNEX 2

The Concept as a Generic Factor

BY HENK VAN DEN BREEMEN, BENJAMIN BILSKI AND THEO BOSTERS

MEANING AND FUNCTION The 'concept' represents the bridge between the creative (idea/vision) and operational phases (strategy, planning, implementation, iterative process). How is it defined and understood?

GENERAL In its origin, the word 'concept' derives from the Latin *concipere*, to conceive, where the conceptum, is something conceived, a theoretical construct. According to the *Stanford Encyclopaedia of Philosophy*, "Concepts are the constituents of thoughts. Consequently, they are crucial to such psychological processes as categorization, inference, memory, learning, and decision-making." In the history of philosophy the structure, function and meaning of concepts are debated for their role in language, mathematics, science, representation, the mind and the creative arts.

In the *Breakthrough* series, we consider the role of the concept in innovation processes, which crystallises the values of the vision, and spells out its specific goals and structure of organised activity in the context of a wider network. In this way, the concept prepares the ground for the masterplan, mission and strategy, where capabilities are matched with resources to achieve specific goals.

THE BUSINESS MODEL AND THE *(GESAMT) KONZEPT* In business literature, the 'business model' comes close to the way in which The Owls use 'concept', although 'business model' is defined in various ways, as 'statement', 'description', 'representation', 'architecture', 'conceptual tool or model', 'method', 'framework', 'pattern' or 'set'. A business model generally includes the offering and activities of an organisation, resource, the model of the value chain, and the wider context of the market and competitors.

In one influential description, the business model is "an architecture of the product, service and information flows, including a description of the various business actors and their roles." These uses in business, however, are good at capturing the basic elements of structure, function and network, but are not as comprehensive as the concept is understood to be in *Breakthrough.*

In German policy, strategy and diplomacy, the *Gesamtkonzept* comes closer to our understanding of concept. The *Gesamtkonzept*, literally 'total concept', is an "integrated and comprehensive governing concept," which expresses the "fundamental objective" to achieve in a process including the necessary means.

SOME MORE REMARKS ON AND DEFINITIONS OF THE CONCEPT
In the concept we envisage vision and ideas meeting with capabilities for the first time. The realisation of the thinking is confronted with the need to be linked to the capabilities. So the concept provides the architecture to present in headlines those elements which are necessary to achieve the set goal. You could also say: the concept is the design in headlines connecting the elements which are needed to bring success. It bridges 'what we want', 'what we need to succeed' and 'how we will execute'.

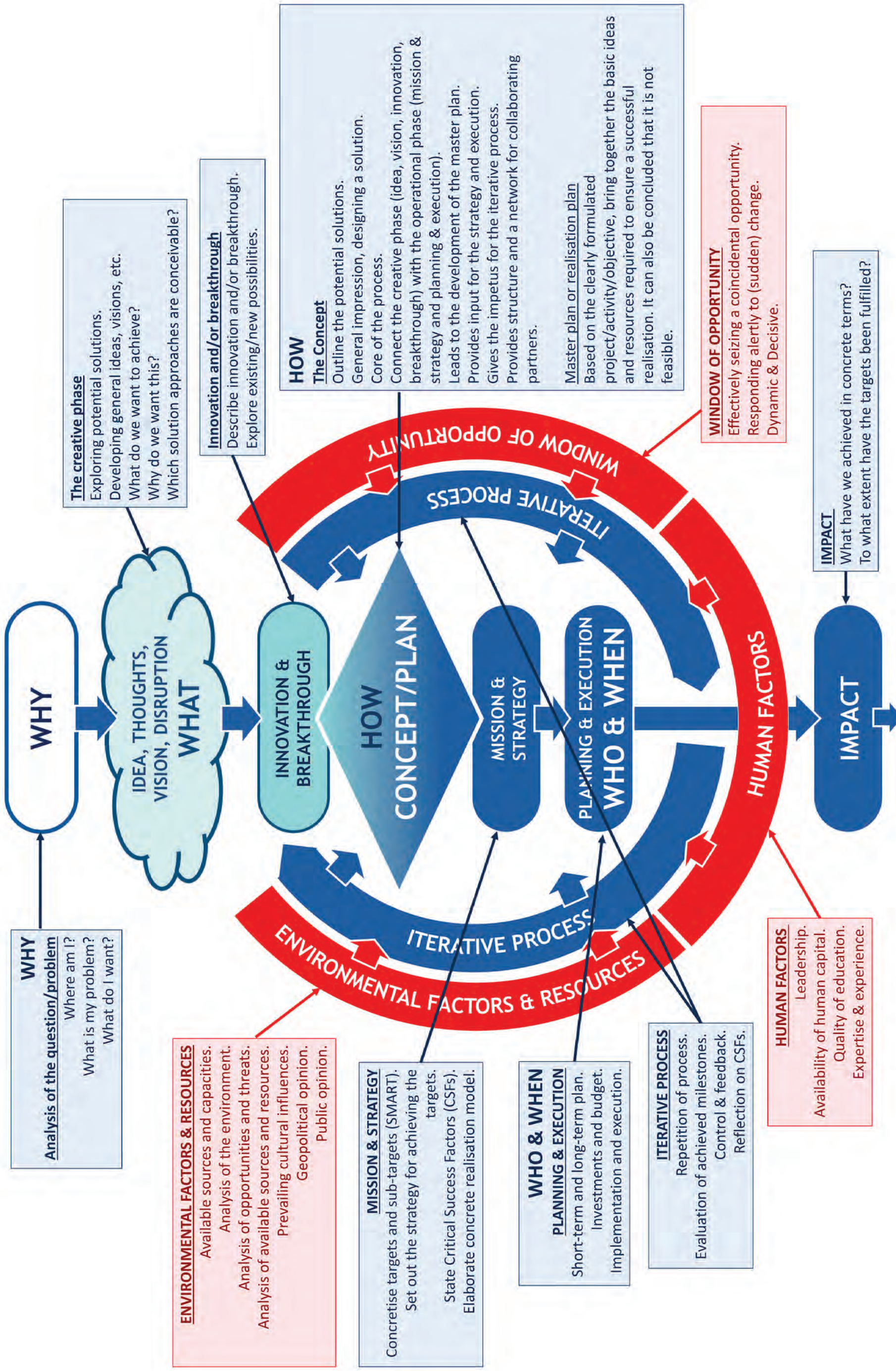
The concept has its own dynamics. It grows from headlines towards a sound basis suitable for developing a solid masterplan. Therefore it provides the essential input for the further *mission*, *strategy* and *execution.* In all the cases we researched we found that the translation of what we want into precise goals and sub-goals is essential for success. So the concept and the masterplan are the drivers for the *execution*. They force us to define exactly what we want, divided into precise, goals and targets.

This is shown in the figure 'The Owls Breakthrough Concept' which explains the generic factor concept. See page 196 and an example of a detailed concept on page 197: the Unilever Sustainable Living Plan.

Because the term concept is open to multiple explanations, here are a few additional alternatives and related wordings:

- Outline of the potential solutions.
- The first connection of what we *want* and what we *think* we need.
- Rough stage on main lines; from a concept it grows into a plan (masterplan).
- Linking to the elements necessary for realisation.
- It is the preliminary stage for the design and architecture of the implementation.
- In principle, it connects the elements that are needed to achieve the set goal.
- Connects the creative phase (idea, vision, innovation, breakthrough) with the operational phase (mission & strategy and planning & execution).
- Leads to developing the basis for the masterplan.
- Provides input for the mission, strategy and execution.
- Gives the impetus for the iterative process.
- Provides the basis, structure and network for collaborating partners.

THE OWLS BREAKTHROUGH CONCEPT



UNILEVER SUSTAINABLE LIVING PLAN: PROGRESS IN 2017

IMPROVING HEALTH AND WELL-BEING FOR MORE THAN 1 BILLION

By 2020 we will help more than a billion people take action to improve their health and well-being.

We have helped 601 million people take action to improve their health and well-being.

Contributing to the following Sustainable Development Goals:

HEALTH AND HYGIENE

By 2020 we will help more than a billion people to improve their health and hygiene. This will help reduce the incidence of life-threatening diseases like diarrhoea.

601 MILLION people reached by end 2017

- Reduce diarrhoeal and respiratory disease through handwashing
- Provide safe drinking water
- Improve access to sanitation
- Improve oral health
- Improve self-esteem
- Help improve skin healing

NUTRITION

We will continually work to improve the taste and nutritional quality of all our products. The majority of our products meet, or are better than, benchmarks based on national nutritional recommendations. Our commitment goes further: by 2020, we will double the proportion of our portfolio that meets the *highest* nutritional standards, based on globally recognised dietary guidelines. This will help hundreds of millions of people to achieve a healthier diet.

39%† of our portfolio by volume met highest nutritional standards in 2017

- Reduce salt levels

Saturated fat:
- (92) Reduce saturated fat
- (92) Increase essential fatty acids
- (89) Reduce saturated fat in more products
- Remove trans fat
- Reduce sugar

Reduce calories:
- In children's ice cream
- In more ice cream products
- (86) Provide healthy eating information

REDUCING ENVIRONMENTAL IMPACT BY 1/2

By 2030 our goal is to halve the environmental footprint of the making and use of our products as we grow our business.*

Our greenhouse gas impact has increased and our water and waste impacts per consumer use have reduced since 2010.

Contributing to the following Sustainable Development Goals:

GREENHOUSE GASES

Our products' lifecycle: Halve the greenhouse gas (GHG) impact of our products across the lifecycle by 2030.

+9%† our greenhouse gas impact per consumer use has increased by around 9%† since 2010*

Our manufacturing: By 2020 CO_2 emissions from energy from our factories will be at or below 2008 levels despite significantly higher volumes.

-47%† reduction in CO_2 from energy per tonne of production since 2008

Become carbon positive in manufacturing:
- Source all energy renewably
- Source grid electricity renewably
- Eliminate coal from energy mix
- Make surplus energy available to communities
- New factories

Reduce GHG from washing clothes:
- Reformulation
- Reduce GHG from transport
- Reduce GHG from refrigeration
- Reduce energy consumption in our offices
- Reduce employee travel

WATER

Our products in use: Halve the water associated with the consumer use of our products by 2020.+

-2%† our water impact per consumer use has reduced by around 2%† since 2010*

Our manufacturing: By 2020 water abstraction by our global factory network will be at or below 2008 levels despite significantly higher volumes.

-39%† reduction in water abstraction per tonne of production since 2008

Reduce water use in manufacturing process:
- New factories

Reduce water use in the laundry process:
- Products that use less water
- Reduce water use in agriculture

WASTE

Our products: Halve the waste associated with the disposal of our products by 2020.

-29% our waste impact per consumer use has reduced by around 29% since 2010*

Our manufacturing: By 2020 total waste sent for disposal will be at or below 2008 levels despite significantly higher volumes.

-98%† reduction in total waste per tonne of production since 2008

Reduce waste from manufacturing:
- Zero non-hazardous waste to landfill
- New factories
- Reusable, recyclable or compostable plastic packaging
- Reduce packaging

Recycle packaging:
- Increase recycling and recovery rates
- Increase recycled content
- (66) Tackle sachet waste
- (99) Eliminate PVC

Reduce office waste:
- Recycle, reuse, recover
- Reduce paper consumption
- (73) Eliminate paper in processes

ENHANCING LIVELIHOODS FOR MILLIONS

By 2020 we will enhance the livelihoods of millions of people as we grow our business.

We have made steady progress across our Enhancing Livelihoods commitments.

Contributing to the following Sustainable Development Goals:

SUSTAINABLE SOURCING

By 2020 we will source 100% of our agricultural raw materials sustainably.

56% of agricultural raw materials sustainably sourced by end 2017

- Sustainable palm oil †
- Paper and board
- Soy beans and soy oil †
- Tea †
- (67) Fruit
- (92) Vegetables
- Cocoa
- Sugar
- Sunflower oil
- Rapeseed oil
- Dairy
- (77) Fairtrade Ben & Jerry's
- Cage-free eggs
- Increase sustainable sourcing of office materials

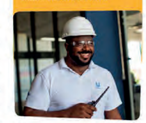
FAIRNESS IN THE WORKPLACE

By 2020 we will advance human rights across our operations and extended supply chain.

55%† of procurement spend through suppliers meeting our Responsible Sourcing Policy's mandatory requirements

We continued to embed human rights,† focusing on 8 salient issues in our Human Rights Report

Our Total Recordable Frequency Rate for safety improved to 0.89† per million hours worked



- Implement UN Guiding Principles on Business and Human Rights †
- Source 100% of procurement spend in line with our Responsible Sourcing Policy †
- Create framework for fair compensation †
- Improve employee health, nutrition and well-being
- Reduce workplace injuries and accidents †

OPPORTUNITIES FOR WOMEN

By 2020 we will empower 5 million women.

1,259,000† women enabled to access initiatives aiming to promote their safety, develop their skills or expand their opportunities•

- Build a gender-balanced organisation with a focus on management †
- Promote safety for women in communities where we operate †
- Enhance access to training and skills †
- Expand opportunities in our retail value chain †

INCLUSIVE BUSINESS

By 2020 we will have a positive impact on the lives of 5.5 million people.

716,000† smallholder farmers and **1.6 MILLION** small-scale retailers enabled to access initiatives aiming to improve agricultural practices or increase incomes•

- Improve livelihoods of smallholder farmers †
- Improve incomes of small-scale retailers
- Increase participation of young entrepreneurs in our value chain

KEY

- Achieved by target date
- On-plan for target date
- Off-plan for target date
- (%) % achieved by target date

* Our environmental targets are expressed on a 'per consumer use' basis. This means a single use, portion or serving of a product.

\+ In seven water-scarce countries representing around half the world's population.

• In 2017 around 370,000 women accessed initiatives under both Opportunities for Women and Inclusive Business.

† PricewaterhouseCoopers (PwC) assured. For details and the basis of preparation, see www.unilever.com

CONTRIBUTORS

PAUL BAAN is the founder and Chairman of the Noaber Foundation and a Board Member of The Owls Foundation. He was the co-founder of Baan Company, a large Enterprise Resource Planning business, and is a pioneer in the areas of social ventures and impact investing.

JAN PETER BALKENENDE was Prime Minister of the Kingdom of the Netherlands from 2002 to 2010. He was a partner at EY between 2011 and 2016, focusing on corporate responsibility, international affairs and areas at the interface of the public and private sectors. He is now External Senior Advisor to EY. Since 2010, he has been Professor of Governance, Institutions and Internationalisation at Erasmus University Rotterdam. In 2017 he joined the Noaber Foundation as Chairman of the Advisory Board.

ANTONY BELL is founder/CEO of Leader Development Inc, an organisation that has helped many leaders in multiple sectors to engineer the transformation of their leadership—and through it, the transformation of their organisation. He has created an integrated, comprehensive Leadership Framework: the LDI Leadership Framework™, widely considered as the most comprehensive summary of the key elements of great leadership.

BENJAMIN BILSKI is an author and editor with The Owls Project and the Executive Director of the Pericles Foundation. He works in the Telecoms Directorate of the Department for Digital, Culture, Media and Sport of the UK government. He has co-authored six books, including *Breakthrough, volume 1*, and *Towards a Grand Strategy for an Uncertain World.*

THEO BOSTERS is the director and owner of Corpos, a consultancy that specialises in strategic communication management and research. He also lectures on strategic communications and research at the Avans University of Applied Sciences in the Netherlands. He carried out the quantitative analysis for *Breakthrough: From Innovation to Impact.*

GUIDO BRAAM is an entrepreneur who initiated a number of impact-driven start-ups, which he co-owns through his company Powered by Meaning. In 2012 he decided to focus on the transition towards a circular economy and became CEO of Circle Economy, a social enterprise. Circle Economy accelerates the transition to circularity through on-the-ground action focused on the development of practical and scaleable solutions. At Circle, he initiated the campaign 'Netherlands Circular Hotspot'. With this campaign, the Netherlands was positioned as a circular hotspot when it held the EU presidency in 2016. He has now launched a new project with his company C-creators to make the circular economy a reality.

HENK VAN DEN BREEMEN is the Chairman of The Owls Foundation and the *Breakthrough* series. He holds several advisory and board memberships with large and small institutions, specialising in development of strategies for innovation and their implementation. He is a retired General and the former Chief of Defence of the Netherlands, and carried out a far-reaching modernisation and professionalisation of the Dutch armed forces after the fall of the Berlin Wall. He organised and co-authored *Towards a Grand Strategy for an Uncertain World* (2008).

DENIS A. CORTESE, MD, is Foundation Professor at Arizona State University; Director of ASU's Healthcare Delivery and Policy Program; and President of the non-profit Healthcare Transformation Institute based in Phoenix, Arizona. He is an Emeritus President and CEO of the Mayo Clinic.

GERT VAN DIJK is Professor of Cooperative Business Administration and Management at Nyenrode Business University. He is also an external Professor at the Universities of Wageningen and Tilburg. With specialties in agriculture, animal husbandry, social ventures and developmental economics, he has written dozens of publications on agricultural science and economics.

DIONNE EWEN is a consultant at Kirkman Company. She is involved in advisory trajectories on the circular economy and specialises in strategy formation and organisational design. She also advises organisations how to implement a chosen strategy and guides them along the way.

SIR ROBERT FULTON joined the UK Royal Marines in 1972 and, in a military career of 34 years, served all round the world. He left the Armed Forces in 2006 as Deputy Chief of the Defence Staff in the rank of Lieutenant General. He served as Governor of Gibraltar from 2006 to 2009, and became the Chief Executive Officer of the Global Leadership Foundation in 2010.

DIK HERMANS is a member of the Board of the VitaValley foundation, a network organisation for healthcare innovation. He is the former Chairman of the Dutch Healthcare Insurance Board, a governmental advisory body.

HANS HILLEN is President of the organisation for the Dutch Defence and Security-related Industry (NIDV), a former Dutch politician (Minister for Defence, Senator and MP) and former television news journalist.

JAN A. JURRIËNS is Professor in Sustainable Strategy and Innovation at Avans University of Applied Sciences in Breda. He is a member of the supervisory board of several organisations in health and public services. After a career in business he made a switch to universities as Professor in Cooperation and Innovation in 2004. He holds a PhD in Research and Innovation from Nyenrode University.

FW DE KLERK was President of South Africa from 1989 to 1994. He initiated and co-managed the process that abolished apartheid and culminated in South Africa's non-racial constitutional democracy in 1994. Since retiring from politics in 1997 he has supported reconciliation and constitutional governance in South Africa and throughout the world. In 2004 he founded the Global Leadership Foundation, of which he remains the Chairman. He was awarded the Nobel Peace Prize in 1993.

AB KLINK is a member of the Board of Directors of Coöperatie VGZ, the second-largest health insurance provider in the Netherlands. He is also professor of Healthcare and the Labour Market at the VU University in Amsterdam. He was the Dutch Minister of Health, Welfare and Sports from 2007 to 2010, and led the implementation and early monitoring of the 2006 healthcare reforms in the Netherlands. From 2003 to 2007, he was a member of the Dutch Senate. He holds a PhD in Law from Leiden University.

HENNY KOOI works for the Dutch Veterans' Day Foundation. Before that she worked as a Communications Officer for the Dutch Ministry of Defence, was an Executive Assistant at Vodafone and lived in Johannesburg, South Africa, for 10 years.

FOLKERT KUIPERS is Professor of Pediatrics at the University Medical Center Groningen (UMCG) and holds the Healthy Life Alliance Named Professorship at the University of Groningen (UoG). He served as Dean/Vice Chairman of the Board of the

UMCG from 2008-2016 and was involved in shaping the Healthy Ageing profile of UMCG and UoG and in the realisation of the Healthy Ageing Network Northern Netherlands (HANNN). He is one of the initiators of the Alliance of Healthy Ageing (AHA), a transatlantic network that links Noaber Foundation, Vita Valley, the Mayo Clinic and UMCG.

NATALIE LANDMAN is Executive Director at the Arizona State University Healthcare Delivery and Policy Program, and is responsible for managing a portfolio of healthcare and higher education projects in support of ASU's mission. She joined ASU after three years at McKinsey & Company, where she served numerous healthcare and high-tech clients on a range of strategic topics. She holds a PhD in Neurobiology and Behavior from Columbia University in New York City.

ROBERT LOW is Consultant Editor of *Standpoint* magazine in London. He was formerly Associate Editor of *The Observer* and European Bureau Chief of *Reader's Digest*. He has written several books, including biographies of Dolores Ibárruri (*La Pasionaria*) and the cricketer W.G. Grace.

JOHANNA NOOM is the Programme Manager of The Owls Foundation. She has extensive experience in initiating and executing (inter)national organisational and communication projects both in profit and non-profit organisations. She was also responsible for the project management of *Breakthrough, volume 1*. Johanna holds a degree in strategic business communications.

JAC. G. (KOOS) VAN OORD is a member of the Supervisory Board of Van Oord NV and of several companies and NGOs. After a career in the family company he was Chairman of the Executive Board of Van Oord from 1995 until his retirement in 2008. He hold a degree in civil engineering from the Institute of Technology, Utrecht, and a Master's in business administration from IMD, Lausanne, Switzerland.

PAUL POLMAN is CEO of Unilever, Chairman of the World Business Council for Sustainable Development and a United Nations SDG Advocate. In 2015 he received the UN's highest environmental honour, the Champions of the Earth award, for his leadership in driving sustainable growth.

PIETER DE RIJCKE is the chairman of De Hoge Dennen, the investment fund of the De Rijcke family. He is involved in several philanthropic foundations and social investment activities, and is a member of the Board of The Owls Foundation.

SIR JOHN SHEPHERD served in the UK Diplomatic Service for 38 years, specialising in the Middle East, as Ambassador in Bahrain and Director for the Middle East, and in the European Union, concluding as Ambassador in Italy. In 2004 he became the first Secretary-General of the Global Leadership Foundation until 2006 and is now a Global Leadership Foundation Board Member.

MARCO ZOON is an independent policy and communications adviser and lecturer in public communication at Hogeschool Leiden. He was previously spokesman for the Minister of Finance and an advisor on the formation of new governments.

MAARTEN VERKERK is Professor of Reformational Philosophy at the Technical University of Eindhoven, the Netherlands. With a backgroundin chemistry, physics, and philosophy, he has published over a dozen books and hundreds of articles on subjects ranging from chemistry, theoretical physics and applied economics, to ethics, feminism and philosophy.

FOOTNOTES AND SOURCES

INTRODUCTION

FOOTNOTES

[1] 19 cases in volume 1 and 7 cases in volume 2 of the book series *Breakthrough: from Innovation to Impact*.

[2] a.o. The Owls Foundation/New Merriam-Webster]. © The Owls Foundation.

[3] a.o. The Owls Foundation/New Merriam-Webster]. © The Owls Foundation.

[4] Noom, J.L.M. (2014). *Innovations & Breakthroughs: by Accident or by Process?* Thesis Avans University for Applied Sciences (in Dutch).

[5] Koetzier, W., Alon, A. (2013). *Why 'Low Risk' Innovation is costly.* Accessed on 19 June 2018, http://www.innovacion.cl/wp-content/uploads/2013/05/Accenture-Why-Low-Risk-Innovation-Costly.pdf.

CHAPTER 1

CREDITS

Photographs by The Global Leadership Foundation.

INTERVIEWS

The Interviews were conducted by The Owls Team: Henk van den Breemen, Johanna Noom and Bob Low:

• FW de Klerk, 13 October 2017.

• Sir Robert Fulton, 18 October 2017

By Johanna Noom and Bob Low:

• Sir John Shepherd, 8 February 2018.

CHAPTER 2A

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Photograph by by Death to Stock Photography.

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CHAPTER 2B

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Photograph by Juliette Verheijen.

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[4] https://www.circulairondernemen.nl/uploads/73ff68a25ea1c1d2ba9cbbd659d9c64f.pdf.

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Input document from social organisations for the transitions teams of the national programme circular economy (September 2017).

Even though the concept of a circular economy is a recent development, the use of resources and materials and the negative impact of production and consumption on then environments were already hot topics for some time. In a nutshell: how did the circular economy come into existence?

1972 In the Club of Rome report 'The Limits to Growth', a group of influential industrialists and scientists caused commotion with their prediction that a linear system on one planet is not sustainable.

1979 Politician Ad Lansink submitted a resolution about options for waste management and the desired way to process waste. Lansink's Ladder resulted from this which ranks waste processing techniques according to how environmentally friendly they are.

1987 The Brundtland report, written by the World Commission on Environment and Development (WCED), called for sustainable development for future generations (1).

1994 John Tillman Lyle introduces the concept of Regenerative Design. This is a process oriented systems theory that describes how products can be reused both as a technical or a biological resource.

1977 Janine Benyus publishes 'Biomimicry: Innovation Inspired by Nature' describing a new discipline modelling designs on nature to create a healthier, more sustainable planet (for example: create solar energy cells that resemble leaves).

2003 The Cradle-to-Cradle concept (William McDonough and Michal Braungart (2) describes a way to design products that makes them re-useable from the start to the end of the life cycle and where parts of products can be dismantled to become valuable resources.

2004 Prof Dr Arnold Tukker publishes research on service models and how they affect economy (3).

2006 Walther Stahel writes about the Performance Economy. He advocates a service economy where products are not sold but are used for a period of time.

2012 The Ellen MacArthur Foundation publishes its first report. Through product case studies and an economic analyses the report, written in cooperation with McKinsey, elaborates on the potential of the circular economy in the EU.

2013 TNO writes a report on 'Opportunities for the circular economy in the Netherlands' itemising opportunities and obstacles. This includes a framework for action for the government (4).

2013 The start of the 'Green Deal Circular Inkopen' initiative (GDCI – Green Deal Circular Purchasing) fuels the demand for circular products and services in the Netherlands. In the spring of 2017 more than €100 million is purchased for the first time.

2014 National waste policy – from waste to resource (VWTR), an initiative of the Ministry of Infrastructure and Environment to promote recycling and responsible consumption.

2014 The national programme 'The Netherlands Circular!' by the RACE-coalition starts; a joint initiative of social organisations and government to speed up the transition to a circular economy.

2015 The ministries of Infrastructure and Environment and of Economical Affairs request advice of the SER Table Circular Economy on the circular economy.

2016 The Netherlands Circular Hotspot starts. Through this campaign the Netherlands position themselves as an international breeding ground for circularity during the time they are chairing the EU.

2016 The nationwide programme Circular Economy 'The Netherlands Circular in 2050' is officially presented.

CHAPTER 3

CREDITS

Photograph by Unilever.

INTERVIEW

The Interview was conducted by The Owls Team: Henk van den Breemen, Johanna Noom, Bob Low and Theo Bosters:

- Paul Polman, 14 August 2017.

CHAPTER 4

CREDITS

Maestro Ton Koopman photographed by Foppe Schut.

FOOTNOTES

[1] For a detailed analysis of the current state of US healthcare and the underlying issues, see *Rescuing Healthcare* Chapters 2 and 3.

[2] For a detailed description of the orchestra experiment see *Rescuing Healthcare* Chapter 4.

[3] For additional case studies see *Rescuing Healthcare* Chapter 15.

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[21] previously the Medical Service Center of Sensire which continued as an independent business called Medical Service Center NAAST on 1 January 2018 .

SOURCE

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Photographs by Kees van Veen.

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https://www.umcg.nl

[2] https://www.umcg.nl

[3] http://www.rug.nl/

[4] http://www.umcg.nl/NL/UMCG/healthy_ageing/paginas/default.aspx

[5] https://www.healthyageingcampus.nl/

[6] http://www.scale-aha.eu/rs2016-results.html

[7] Quote by Daan Bultje, director of HANNN.

CHAPTER 6

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Photographs © Van Oord.

INTERVIEWS

The Interviews were conducted by The Owls Team: Henk van den Breemen and Johanna Noom:

• Jac. G. (Koos) van Oord, 28 September 2017 and 9 October 2017 (by Henk van den Breemen, Johanna Noom and Bob Low).

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CHAPTER 7

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Photo © Het Scheepvaartmuseum Amsterdam, *VR Journey Dare to Discover*.

INTERVIEW

The Interview was conducted by The Owls Team: Henk van den Breemen, Johanna Noom, Bob Low and Theo Bosters:

• Jan Peter Balkenende, 5 February 2018.

ANNEX

FOOTNOTES

[1] 19 case studies in *Breakthrough*, volume 1; 7 case studies in Breakthrough, volume 2.

[2] One of the main arguments made for using word count is that it provides qualitative researchers with more accurate and richer data and interpretations. Further, word count analysis allows qualitative researchers to specify the exact count rather than using terms such as 'many', 'most', 'frequently', 'several', 'always', and 'never', which are essentially quantitative (Sechrest and Sidani, 1995). The results of such analyses do not 'generalise' in the traditional quantitative sense, but they do justify drawing statistically based conclusions about observations in a qualitative context (Shaffer and Serlin, 2004: 14-15).

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