GLOBAL REFLECTIVE AND CONSIDERATION ON INTERNATIONAL SUSTAINABLE INNOVATION AND A CIRCULAR ECONOMY

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The essence of strategy is choosing what not to do

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Introduction

1. Consideration of Global Circular Economy
2. Consideration of Baseline – Wales and UK
3. Cultural and Political Attitudes
4. Common trends/trends business face
5. Business issues to establish international position
6. Conclusions

Circular Economy

The Circular Economy (CE) transition is emerging as one of the most popular societal responses to environmental problems and in general to the achievement of a more sustainable development worldwide

Circular economy (CE) is a concept currently promoted by the EU, by several national governments including China, Japan, UK, France, Canada, The Netherlands, Sweden and Finland as well as by several international businesses around the world.

The European Commission recently estimated that circular economy-type economic transitions can create 600 billion euros annual economic gains for the EU manufacturing sector alone

Today we are seeing a shift as more companies work toward a “circular economy,” which represents a $4.5 trillion business opportunity. Indeed, consumerism seems to be making a critical shift from rapidly buying more new stuff to supporting reuse, repair and resale.

Circular Economy

- Historically Japan was the first country in the world to systematically apply the principles of circular economy in its development.
- China is the second Asian country to demonstrate an active policy towards circular economy. This country is characterized by high economic growth over the past few decades, however has ongoing environmental concerns.
- UK has been setting a clear direction within the G7 Countries
- USA is adopting policies with certain states but not across all States.
- Circular economy is a priority for EU Member States. It is enshrined in the 2020 Strategy and in the Roadmap for a Resource-Efficient Europe adopted in 2011.
- The Global Alliance for circular economy and resource re use , are developing key road maps , including Chile , Columbia , Peru , Canada , Kenya , Nigeria , Rwanda , South Africa , Morocco , Japan , New Zealand , and Norway

Circular Economy

Leading Countries : Circular Economy	Worst Performing Countries : Circular Economy
Japan	Romania
China **	Ireland
UK	Portugal
USA	Bulgaria
Netherlands	Cyprus
Chile	Greece
Belgium	Denmark
France	Finland
Italy	Sweden
Estonia	Cyprus
Germany	Bulgaria

Circular Economy – Baseline Wales

Headline vision and mission promotes reaching the highest levels of environmental, economic and social sustainability.

A central part of this is the development of a Decarbonisation Action Plan for manufacturing industry underpinned by the latest research and evidence.

One of the success measures of the vision is to increase the proportion of businesses which hold independent accreditation that demonstrates adherence to specific, monitored standards.

Wales will encourage and support businesses to develop their production practices to improve carbon footprints and resource use along with committing to schemes relevant to decarbonisation.

Specific action planned to set ambitious targets to halve food waste, and prevent biodegradable materials going to landfill, by 2025.

Culture of passion , language , and punching above the rest

Circular Economy – Baseline UK

UK Government Key Economic Trends

- Ageing Population
- Digitisation
- Environmentalism
- Knowledge and Intangible Capital
- Onshoring
- Government's priorities – to invest in health and social care, to level up the country with better education, housing, skills, and infrastructure, to lead the way globally to reach Net Zero by 2050, and to strengthen the Union to help solve local problems
- However Progress in the UK towards the delivery of the UN's 17 Sustainable Development Goals (SDGs) has remained fairly stagnant, with performance only classed as good on 17% of the targets relevant to the domestic delivery of the Goals

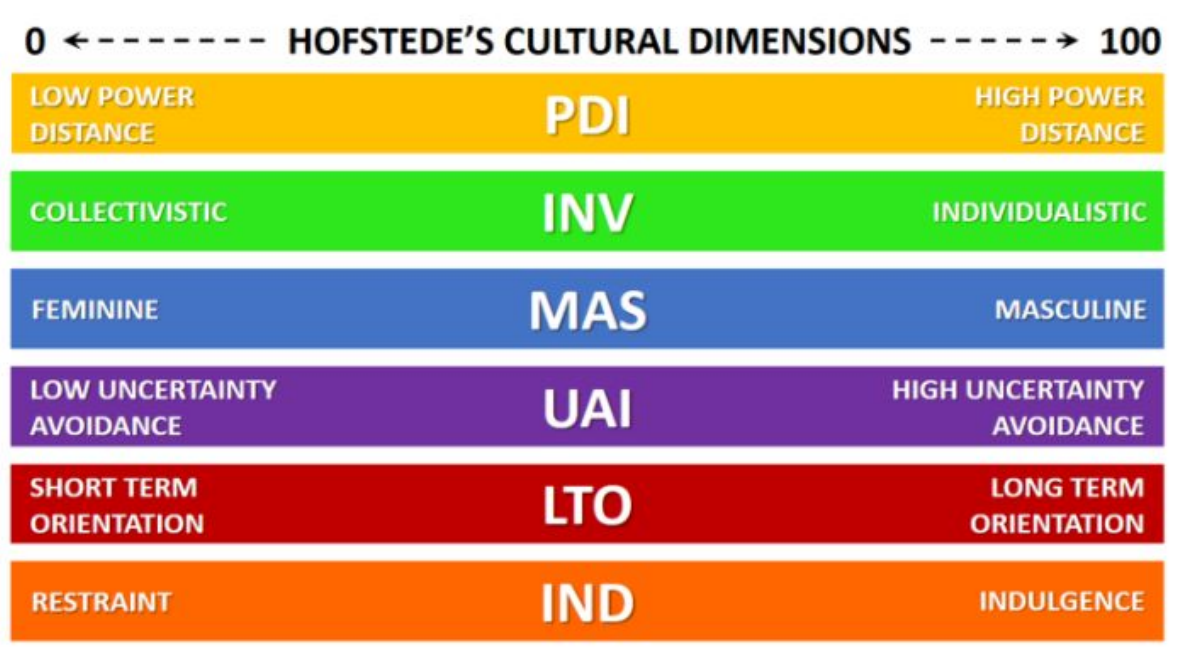
Cultural and Political

How cultural and political attitudes differ from country to country, or possibly global regions,

Identifying how these factors both hinder and benefit new environmentally innovative efforts.

Cultural Attitudes

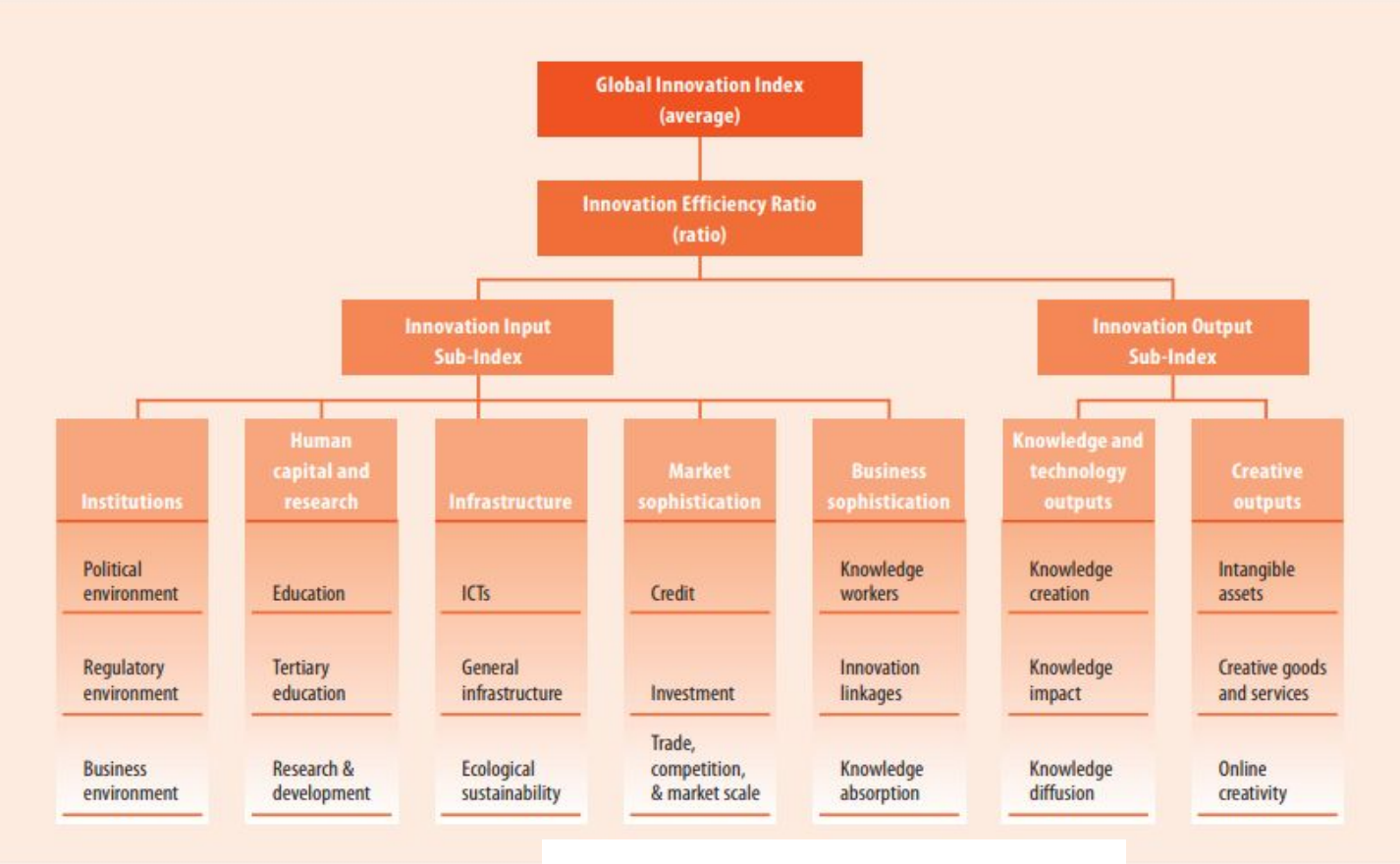
- Cultural attitudes in a globalised economy.
- Differences in culture vs Individual.
- Hofstede's cultural dimensions overview.
- What does this all mean



Hofstede's Cultural Dimensions Framework

Political Attitudes

- GII etc. for determining countries performance
- An innovation is the implementation of a new or significantly improved product (good or service), a new process, a new marketing method, or a new organizational method in business practices, workplace organization, or external relations



Framework of the Global Innovation Index 2016

Political Attitudes

- OECD Inventory Circular Economy
- 474 Indicators from the 2020 OECD Report
- Dynamic Tool tracking progress of cities, regions and national governments to Circular Economy

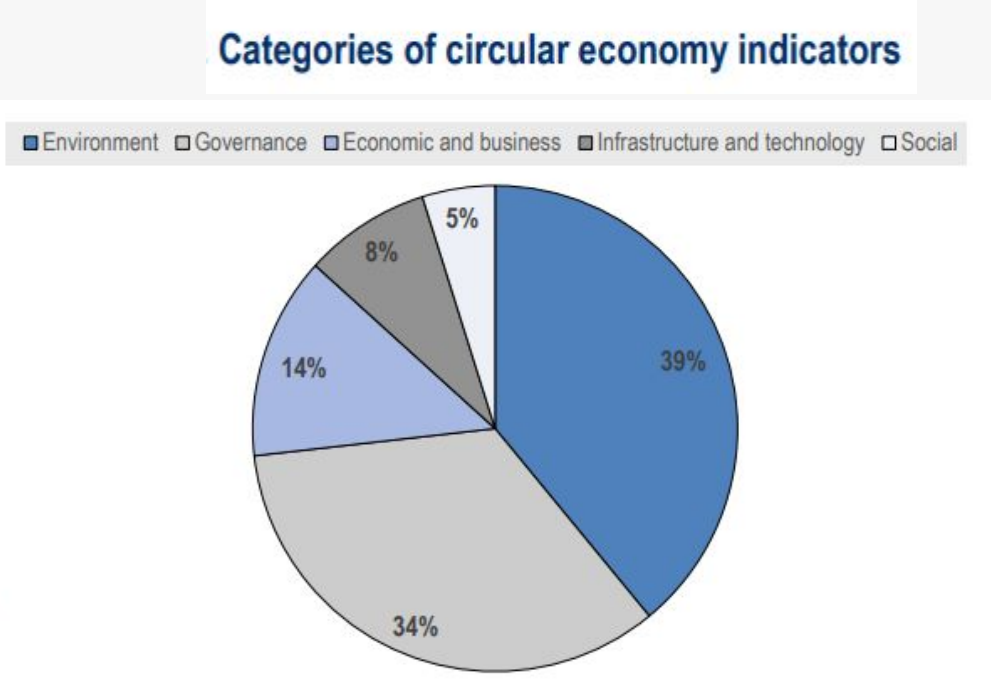
Environment (39%): Collects indicators with a direct impact on the ecosystem, such as emissions, output material process and production and consumption.

Governance (34%): Focuses on indicators related to education, capacity building and regulation, among others.

Economic and business (14%): Includes those indicators expressed in monetary units such as the value-added of the circular economy and the public investment in circular economy projects, as well as those indicators specifically focusing on activities performed by and within companies.

Infrastructure and technology (8%): Covers all the indicators that aim to measure the existence of tools, technologies and spaces that boost the circular economy.

Jobs (5%): Gathers indicators associated with employment and human resources.



How Politics Hinders Innovation

- Brazil is poised to be a powerhouse in the circular economy but no specific legislation is in place May 2022 5 cities signed up to the declaration of Circular Cities of Latin America
- Brazil Bio diverse country with abundant natural resources. Most economically active in Latin America a member of BRIC and most IS0 companies in the region
- Economic growth has been underpinned by India’s (and China’s) emergence economically generating huge profits from vast reserves of raw materials, cheap labour and production costs

How Politics Benefits Innovation

- India recycles 20% against Europe's 70%
- India consumes 1,580 tonnes per acre of resource compared to the world average of 450 tonnes per acre
- Material consumption set to double from 7 billion in 2015 to 14.2 billion tonnes by 2030
- India is the third highest producer of CO2 at 9.2%
- India built in sustainable growth into it’s 22-23 budget

–Battery and Plastic and e waste management rules 22 promoting utilisation of waste in line with circular economy

–Sets targets waste disposal standards for stakeholders e.g. manufacturers

–Emphasised the importance of reusing secondary materials from waste in extended producer responsibilities and tax rebates

How Culture Benefits Innovation

- Brazil driven by companies recognising their consumer for a more sustainable product
- Example 1 – Sou 70% less plastic, use every drop
- Parent company Natura – Avon, Body Shop Aesop

Example 2 Ball corporation VADELETA recycling aluminium cans

How Culture Hinders Innovation

- India – Agrarian dominated workforce
- Recycling operations do not harvest materials to the same standard as those in Japan, Europe and elsewhere
- Need to build public awareness and encouraging innovation and technology development
- Some examples of major Indian companies moving towards a circular economy – ArcelorMittal production of steel

Infinitely recyclable without quality loss

Recycling rates of c. 90%

Lower carbon footprint than competing materials

Key enabler in decarbonising many other technologies

Common Trends in Businesses

Identify common factors that new businesses face in today's world, and how they can seek to overcome these difficulties.

Common factors new Businesses face

- We hold a good share of the **domestic market**, however in order for us to thrive and gain a profitable foothold in international markets we should recognise the common factors that we may face in today's world. This will allow us to identify how we can look to overcome any barriers and take advantage of any opportunities.

Competition

- **Competition** is an ever-present factor to consider for both established and new businesses.
- (overcome) When entering a new market in a new country we can ensure that we offer something different to what is currently offered to that particular market. This can be a different price point, product feature, material etc (Buccieri, D, Javalgi, R & Gross, A (2023). Market research would be required to inform a targeted approach.

Resistance to Change

- We may experience Resistance to Change from customers and even staff when introducing a product (Kozludzhova, K 2023) in a new region.
- (overcome) People aren't always keen to embrace change therefore we would need to be proactive in educating consumers and employees to the benefits of our product and also the quality. We can share testimonials from domestic customers. We can attend trade shows in different countries and showcase what we have to offer and provide demonstrations.
- Being mindful of the best way to communicate the message. In Different countries different forms of media will attract varying levels of engagement (De Luca et al 2022)

Other factors to consider

- Cultural/language difference- employ a local agent. Particularly important when no travel was permitted during covid
- Global supply chain- how easy? Costs - duty paid and impact on price point. Timelines for supply chain.
- Not having a proven track record to give confidence – we can provide testimonials from existing companies
- In order to be innovative we might need new equipment - costs involved/capital investment
- Legal barriers- innovation may be hindered by regulations in different countries, we need to ensure we research the legalities of operation before furthering investment and seek professional guidance.
- The recent **COVID pandemic** has highlighted how businesses can be vulnerable on a worldwide scale.

Consumers are having their eyes opened to global issues

- **Brexit** & **Invasion on the Ukraine** see repercussions for the average householder- soaring energy prices and increases at the petrol pumps. Less disposable income focuses the consumers' mind when making a purchase. Panorama BBC One (2023) *Surviving the Pay Squeeze.*
- **Costs of goods, marketing and distribution are increasing** and hitting new businesses across the world. Combined with employees demands for pay rises, due to climbing inflation, are all huge factors to consider. We can't always pass the costs on to the customer so need to make savings wherever possible. Look at our consumables and regularly review the market to obtain materials at a more competitive price. We need to improve our efficiencies in every area as much and as often as possible. Look at increasing capacity and move the manufacturing of certain products to different countries.

Consumers are having their eyes opened to global issues

- People are more engaged and mindful of resilience and resource shortages. They are more concerned with climate change and air quality and shortages (Cope, R 2023) We need to demonstrate that we are an organisation that is environmentally conscious.
- **Companies should talk about resources-** consumers want to see information and metrics about how water input has been reduced. (Cope, R 2023)
- Brands like Italian pasta company *Barilla*, are innovating how their pasta is cooked, the hob can be turned off after 2 minutes allowing it to continue to cook in the pan. They market it as "passive cooking" and claim that it reduces CO_2 emissions by up to 80%, saving energy as a resource and making the consumer aware of the benefit for them, e.g. financial benefits as well as environmental benefits. In addition, their blue boxes for classic pasta will no longer have a plastic window, which is expected will cut its plastic consumption by 126 tonnes a year (Reuters 2022).

We need to promote the innovative and sustainable ways we are currently operating and what we plan to do for the future.

Securing the future

New Product Development is key to securing the future of CMSW. Kozludzhova, K (2023)

International Business Considerations

Investigation into issues that some businesses have previously faced to establish themselves internationally consider their levels of success from country to country or region to region

Kellogg's

The company was founded by W.K. Kellogg in 1906 in Battle Creek, Michigan, USA. Since its inception, Kellogg's has expanded its operations and has a presence in over 180 countries worldwide.

1. ***North America:*** This segment comprises the United States and Canada and is the largest Kellogg product market.
2. ***Europe:*** The European market is another significant segment for Kellogg's,
3. ***Latin America:*** This segment encompasses countries in Central and South America and the Caribbean.
4. ***Asia, Middle East, and Africa (AMEA):*** This segment comprises the company's operations in Asia, the Middle East, and Africa.

- **Financial Performance**: In 2022, Kellogg's generated revenue of $15.3 billion with a net income of $962 Million.38% of the world market .

Kellogg's – Global Lead v Local Response

Culture

- Driving Breakfast for all in 3Bn children.
- Global hunger – leading voice
- Local production – local supply chain
- Adapting products to local tastes, navigating complex regulations, and managing global supply chains effectively.

Leadership

- Senior leadership driving one vision from USA
- Local leaders – globally trained in Kellogg's way in USA
- Controlled central messages

Circular Economy

- Food Waste
- Logistics
- Core ingredients – water use , packaging
- Labour v Digital , automation

Challenges – Ongoing

Culture

- Cost Base
- Technology , market, social and institutional barriers all hinder achieving a circular economy operating in non circular countries
- Changing Consumer Behaviour
- Asia, Middle East, and Africa (AMEA) have ongoing challenges due to cultural barriers within a stagnant market

Leadership

- Senior leadership driving one vision from USA - barrier to understanding local issues in countries
- Knowledge exchange poor in country

Circular Economy

- Plastic pollution – infrastructure of international countries
- CSR global goals challenging
- Regulatory and Food Safety Compliance
- Automation / digital innovation

Challenges – Ongoing

Culture **Leadership** **Circular Economy**

To address these challenges and remain competitive, Kellogg's has focused on innovation, diversification, product reformulation, sustainability initiatives, and strategic partnerships to meet the evolving demands of consumers and the food industry

The challenge is further complicated in the development of multiple directions of local based circular economy that is based on local culture and politics with no global linking of priorities

Calbee

Calbee is a well-known Japanese snack food company that specializes in producing a wide range of potato-based and other Savory snacks. The company was founded in 1949 and has since grown into one of Japan's snack manufacturers, with a strong presence both domestically and internationally.

Japan , USA , UK , Hong Kong , China , Australia , South Korea , Thailand

China is its biggest growing market with future direction of increased sales also in UK , USA and Far East

Financial Performance: In 2022, Calbee generated revenue of $113M with a net income of $60 Million.

Calbee – Global Lead v Local Response

Culture

- Leading on global obesity challenge with children
- Local production – local supply chain
- Adapting products to local tastes, navigating complex regulations, and managing global supply chains effectively.

Leadership

- Senior leadership driving one vision from Japan
- Local leaders – based on Japanese management methods
- Controlled central messages

Circular Economy

- Food Waste
- Packaging – recycle / reuse
- Core ingredients – water use , packaging
- Labour
- Automation
- Community agriculture

Challenges – Ongoing

Culture

- Cost Base
- market, social and institutional barriers all hinder achieving a circular economy operating in non circular countries –
- China challenge – political and cultural – Geo political but fast growing market
- Thailand - poor sales due to cultural understanding of global aim
- Changing Consumer Behaviour
- Taste of products and consumer impact

Leadership

- Senior leadership driving one vision from Japan - barrier to understanding local issues in countries
- Knowledge exchange poor in country
- Different working regulations IP in different countries

Circular Economy

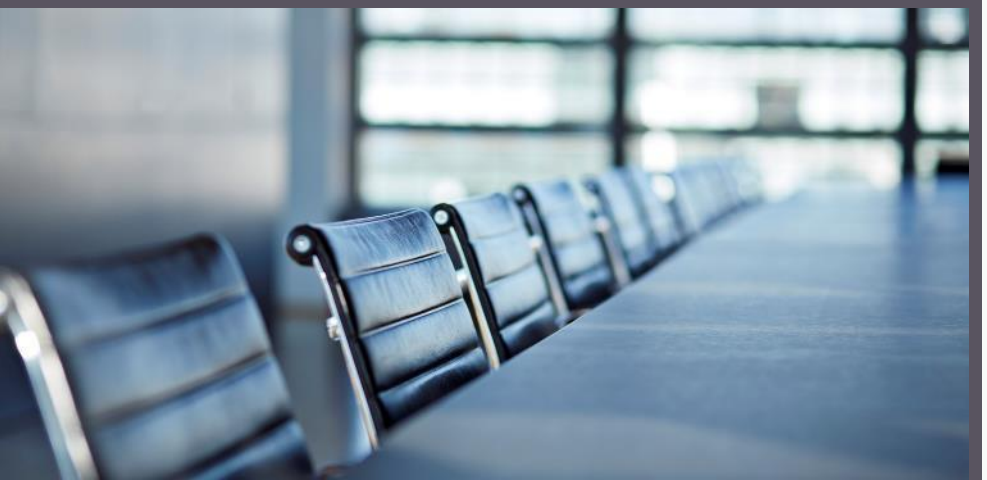
- Plastic pollution – infrastructure of international countries
- CSR global goals challenging
- Regulatory and Food Safety Compliance
- Automation / digital innovation

Challenges – Ongoing

Culture **Leadership** **Circular Economy**

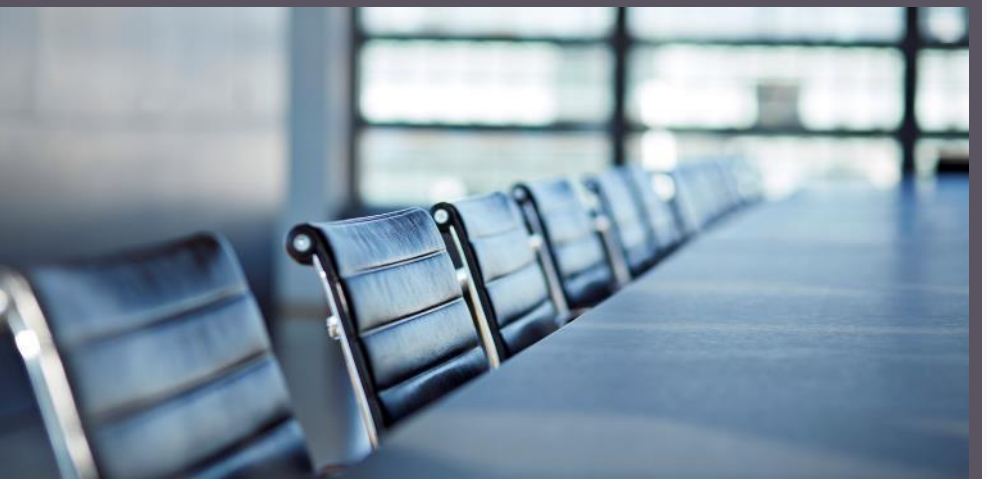
To address these challenges and remain competitive, Calbee has focused on innovation, key health messages, product reformulation, sustainability initiatives, and strategic partnerships to meet the evolving demands of consumers and the food industry.

The challenge is further complicated in the development of multiple Geo political challenges in key areas of their markets that is based on local culture and politics with no global linking of priorities.



Summary : Lessons to consider

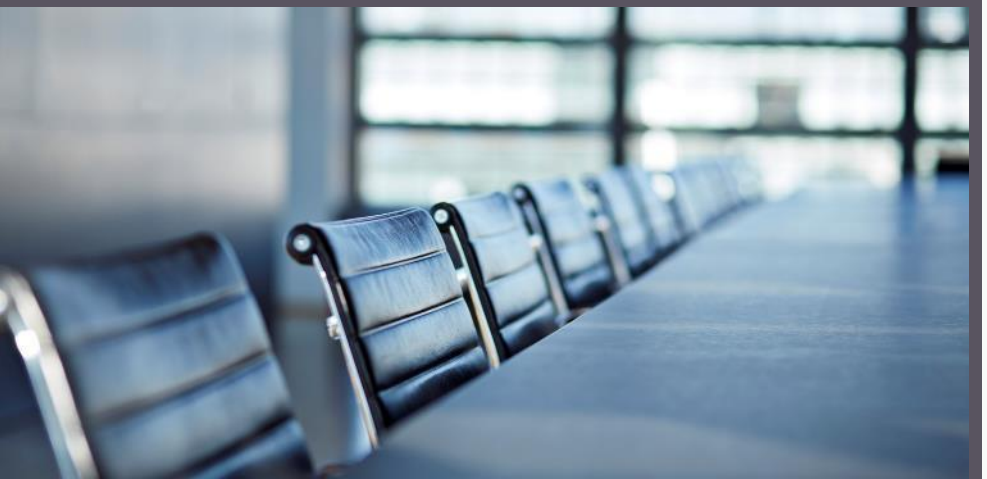
- Clear focused vision for new investment in new global markets
- Strong centralised leadership
- One clear message that customers relate to
- Global issue in circular economy – many variables that can drive issues in CSR
- Rapid response to global challenges
- Significant investment required in developing a new international market



Summary

Despite these challenges, many companies have successfully integrated circular economy principles into their business models and have benefited from increased resource efficiency, reduced waste, improved brand reputation, and access to new market opportunities.

As the circular economy continues to gain momentum and more businesses innovate and adapt, these challenges may gradually diminish, leading to a more sustainable and resilient global market.



Team Approach

The team considered initially the overall brief and areas of interest to research.The team then separately researched the overall position of the circular economy using academic and non academic sources , looking for key trends . The team then met on a regular basis to develop a real time learning position . Following a detailed review, the team developed a position on each element that required additional research , and each team member were assigned responsibilities . The team ensured that a larger number of international countries were targeted to learn from each area in as much detail as possible but without duplication . This allowed for breadth and depth of research , and greater understanding of the key challenges internationally . The team then mindstormed the results and developed the senior level presentation to aid the development of the company strategic position. The team quickly identified individual core strengths and all tasks were allocated through open structured discussions.

References

- Osterwalder, A., Pigneur, Y. and Clark, T. (2010) Business model generation : a handbook for visionaries, game changers, and challengers. Hoboken, N.J: John Wiley & Sons.
- Five basic methods market research – [online] available at The five basic methods of Market Research - Verizon Small Business Essentials Resources [Accessed: 01/03/23]
- Kadens, RJ, Linda, G and Prince, M. (2012). Leading Edge Marketing Research: 21st-Century Tools and Practices, *SAGE*
- Tidd, J. and Bessant, J.R. (2021) *Managing innovation: Integrating technological, market and organizational change*. Hoboken: Wiley.
- Porter, M.E. (1989) “How competitive forces shape strategy,” *Readings in Strategy.*
- Schilling,M.A. (2010) “Strategic Management of Technical Innovation”, McGraw Hill , International Edition
- Implementing the Sustainable Development Goals - GOV.UK (www.gov.uk) (accessed : 23/07/2023)
- Cheshire and Warrington (workshop attended 21/07/2023) Circular Economy – Future Strategic Direction
- Korhonen, J., Honkasalo, A. and Seppälä, J. (2018) ‘Circular economy: The concept and its limitations’, *Ecological Economics*, 143, pp. 37–46.
- Zhelyazkova, V. (2020) ‘Circular economy: International policies and practices’, *Izvestiya Journal of the University of Economics – Varna*, 64(3), pp. 239–255.

References

- Zhelyazkova, V. (2020) ‘Circular economy: International policies and practices’, *Izvestiya Journal of the University of Economics – Varna*, 64(3), pp. 239–255.
- Pioneers of the future: the countries leading the way with circular economy policy (circle-economy.com) accessed 01/07/2023
- Squaring the Circle: Policies from Europe’s Circular Economy Transition (worldbank.org) accessed 23/07/2023
- Is a circular economy good for the planet and business too? | World Economic Forum (weforum.org) accessed 23/07/2023
- Mazur-Wierzbicka, E. (2021) ‘Towards circular economy—a comparative analysis of the countries of the European Union’, *Resources*, 10(5), p. 49.
- HOJA-DE-RUTA-PARA-UN-CHILE-CIRCULAR-AL-2040-EN.pdf (mma.gob.cl) accessed 23/07/2023
- Kevin van Langen, S., Vassillo, C., Ghisellini, P., Restaino, D., Passaro, R. and Ulgiati, S. (2021) ‘Promoting circular economy transition: A study about perceptions and awareness by different stakeholders groups’, *Journal of Cleaner Production*, 316, p. 121
- de Lange, Dr. D., Walsh, Dr. P. and Paul, Dr. S. (2022) ‘UK-Canada Trade Post-Brexit: Leading with circular economy trade’, *Resources, Conservation & Recycling Advances*, 14, p. 200
- Kellogg Company - Company Profile Report | IBISWorld
- Phelan, A. (Anya), Meissner, K., Humphrey, J. and Ross, H. (2022) ‘Plastic pollution and packaging: Corporate commitments and actions from the food and Beverage Sector’, *Journal of Cleaner Production*, 331, p. 129827. doi: 10.1016/j.jclepro.2021.129827.

References

- CalbeeReport2019_14-25_en.pdf accessed 29/07/2023
- *Tackling the overweight problem: Healthy Japan was no exception* (no date) *IIAS*. Available at: https://www.iias.asia/the-newsletter/article/tackling-overweight-problem-healthy-japan-was-no-exception (Accessed: 29 July 2023).
- Hofstede, G. (2001). Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations. Second Edition, Thousand Oaks CA: Sage Publications.
- Jesse Niemen (29/03/2022) Cultural Differences and Innovation, available at https://www.viima.com/blog/cultural-differences-innovation (Accessed 20/08/2023)
- OECD (2020) The Circular Economy in Cities and regions, available at https://www.oecd.org/cfe/cities/InventoryCircularEconomyIndicators.pdf (Accessed 20/08/2023)
- The Global Economy (2023) Innovation Index- Country Rankings, Available at https://www.theglobaleconomy.com/rankings/gii_index/ (Accessed 20/08/2023)
- Charbel Jose Chiappetta Jabbour, Daniel Jugend, Ana Beatriz Lopes de Sousa Jabbour, Angappa Gunasekaran, Hengky Latan (9January 2015) Journal of Cleaner Production Green product development and performance of Brazilian firms: measuring the role of human and technical aspects, Available at https://www.sciencedirect.com/science/article/pii/S0959652614009664 (Accessed 20/08/2023)

References

- WIPO Int (2016) The Global Innovation Index (GII) Conceptual Framework, available at https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016-annex1.pdf (Accessed 20/08/2023)
- Rodrigo Maia (2015) Reinventing packaging for a cosmetics brand, available at http://www.rodrigo-maia.com/natura-sou-product-design (Accessed 20/08/2023)
- Trendhunter Create the Future (2013) Egg-Shaped Eco Shampoo, available at https://www.trendhunter.com/trends/natura-sou-packaging, (Accessed 20/08/2023)
- Springer Link (05 January 2023) Motivations for a sustainable ethos: evidence from the globally present Brazilian multinational Natura &Co, available at
- https://link.springer.com/article/10.1007/s10669-022-09890-y (Accessed 20/08/2023)
- B3 (2023) One of the world´s largest financial market infrastructure companies, available at https://www.b3.com.br/en_us/b3/about/who-we-are/ (Accessed 20/08/2023)
- Industria Verde (27 September 2022) Transition to the Circular Economy: opportunities and challenges, Available at https://brazilsustainableindustry.com.br/news/transition-to-the-circular-economy-opportunities-and-challenges/ (Accessed 20/08/2023Ellen MacArthur Foundation (2 November 2017) Six circular economy case

References

- studies from Brazil Available at https://medium.com/circulatenews/six-circular-economy-case-studies-from-brazil-3d7a9656da26 (Accessed 20/08/2023) Ellen MacArthur Foundation (2 November 2017) Six circular economy case studies from Brazil available at https://medium.com/circulatenews/six-circular-economy-case-studies-from-brazil-3d7a9656da26,(Accessed 20/08/2023)
- The Globe and Mail (20 October 2021) Available at https://www.theglobeandmail.com/investing/markets/stocks/BLL/pressreleases/2688981/ (Accessed 20/08/2023)
- Enel Spa (June 2022) Brazilian circular cities: a sustainable city model for the future, available at https://www.enel.com/company/our-commitment/circular-economy/circular-economy-news/articles/2023/05/brazilian-circular-cities (Accessed 20/08/2023)
- Chaitanya Kalia and Suddhwasattwa Mukherjee The Times of India (1 June 2023) Circular economy is the answer to India's need to build sustainability around precious metals, available at https://timesofindia.indiatimes.com/blogs/voices/circular-economy-is-the-answer-to-indias-need-to-build-sustainability-around-precious-metals/ (Accessed 20/08/2023)
- Shivanshu Thaplyal, Meher Bhatia, Swati Shekar (28 December 2022) The Hindu Business Line Circular economy – Is India ready to come full circle in sustainability? Available at https://www.thehindubusinessline.com/opinion/circular-economy-is-india-ready-to-come-full-circle-in-sustainability/article66314636.ece (Accessed 20/08/2023)

References

Disha Agarwal and Akanksha Tyag (10 January 2023) The Economic Times How Budget 2023 can help India build a circular economy in renewables, Available at https://economictimes.indiatimes.com/industry/renewables/how-the-budget-can-help-india-build-a-circular-economy-in-renewables/articleshow/96872596.cms?from=mdr(Accessed 20/08/2023)

- Shankar Prasad Sarma Shalini Goyal Bhalla Mausam Kumar (April, 2023) India's Tryst with a Circular Economy, Available at India's Tryst with a Circular Economy (eacpm.gov.in) (Accessed 20/08/2023)
- Buccieri, D, Javalgi, R & Gross, A (2023) Innovation and Differentiation of Emerging Market International New Ventures the Role of Entreprenurial Marketing. Journal of Strategic Marketing, 31:3 549-577.
- Cope, R (2023) Podcast: Global Outlook on Sustainability: What Brands Need to Know about Consumer Behavior. Mintel. (Accessed 25.07.23)
- Morrison. (2020). The global business environment : towards sustainability? (Fifth edition.). Macmillan Education.
- Panorama BBC One (2023) Surviving the Pay Squeeze, aired 20 March 2023, (Accessed 17.07.23)
- Francesca, L (January 26 2022) Barilla serves up new premium pasta to keep up with consumer tastes | Reuters Barilla serves up new premium pasta to keep up with consumer tastes | Reuters (Accessed 20.07.23)

References

- Barilla Barilla | Passive Cooking https://www.barilla.com/en-gb/passive-cooking (Accessed 20.07.23)

–De Luca, F et al (2022) Can social media improve stakeholder engagement and communication of Sustainable Development Goals? A cross-country analysis. Technological Forecasting and Social Change. Volume 177. Elsevier (Accessed 17.07.23)

–Kozludzhova, K. . (2023). Barriers to Product Innovations: A Theoretical Knowledge and Research Framework. European Journal of Sustainable Development, 12(2), 67. https://doi.org/10.14207/ejsd.2023.v12n2p67 (Accessed 25.07.23)

THANK YOU

Competitive strategy is about being different . It means deliberately choosing a different set of activities to deliver a unique mix of value

Porter (2015)