How does innovation drive a successful sustainable business strategy?

By Morris D Fedeli © 2018. Student ID: 1097268. Faculty of Business.

Research Proposal Panel Presentation for USQ DBA/PhD program.

Supervisors: Dr Fernando Padro & Dr Paul O'Brien

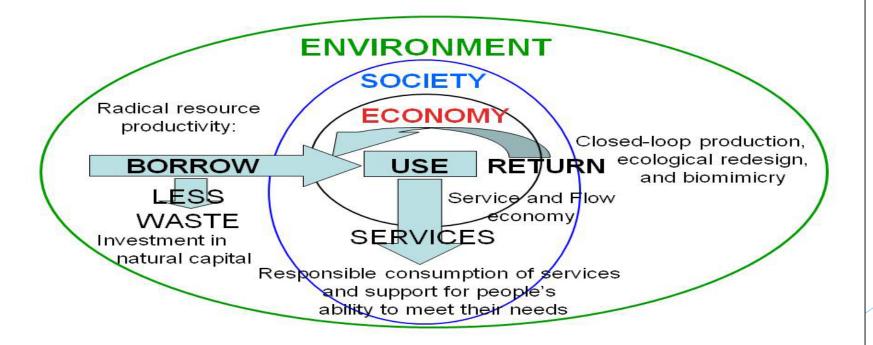
Associate Dean: Dr Patrick Danaher

Panel: Dr Raj Gururajan (Chair), Dr Krzysztof Dembek & Dr Lee Fergusson

sus.tain'abil'i.ty:

n., the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable Borrow-Use-Return Model



Source: Based on Bob Doppelt, The Power of Sustainable Thinking, Earthscan, 2008, p. 34.

***(S)BM:
(Sustainable)
Business Model

***SPM: Sustainable Performance Measurement

***BMI: Business
Model Innovation

***CSP: Corporate
Sustainability
Performance

Context (circular economy - systems value forms)

Sustainable Value Model

Environmental Value Forms Renewable resource, low emissions, low waste, biodiversity, pollution prevention (air, water, land) Social Value Forms Equality and Diversity, Well-being, Community, Development, Secure Livelihood, Labor Standards, Health and Safety Economic Value Forms Profit, Return on Investment, Financial Resilience, Long term Viability, Business Stability

Figure A-1. Sustainable value model developed by the Author for this study.

Sustainability
matters: the
normative approach
in the pursuit of the
common good (and
sustainability) is to
"do good to do
well", i.e. across all
three value forms
(cf. Ehrenfeld 2017,
Upward 2014, O'Neill
2010).

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Environmental Impact (key facts/examples)

- ► Global population is 7.6 billion and growing with Earth's total resources only good for 2 billion people. Three of the nine planetary limits have already been exceeded (SDG13 & SDG14 & SDG15). Human induced climate change has seen an increase in natural calamities around the world (currently 400ppm) (SDG13)
- Earth's natural resources are being used at a faster rate than they can replenished coupled together with tremendous wastages (e.g. global volume of food wasted per year is estimated to be 1.3 Gtonnes, about 1/3 of all food produced) (SDG12)
- Environmental pollution has been reaching alarming rates, poisoning our waterways and air coupled with land degradation (SDG6 & SDG7) (e.g: 92% of the world's population lives in places where air quality levels exceed WHO limits)



Source: 2017 United Nations Sustainable Development Programme; World Health Organization; Rockstron et al (2009); Steffen et al (2015); O'Neill et al (2010).

Social Impact (key facts/examples)

- Discrimination between the genders (SDG5 & SDG10)
- Respect for human rights: Inequalities between developed and developing countries has brought much detrimental social and health issues e.g: lack of medical, education (SDG4) and housing.
- Poverty:767 million people live below the international poverty line of \$1.90 a day (SDG1)
- Hunger: 795 million undernourished people in the world today (SDG2)
- Child Labour: 152 million in child labour around the world (SDG8)



Source: 2017 United Nations World Food Programme; Sustainable Development Programme; Statistical Commission; International Labour Organization; UNICEF; UNESCO.

Economic Impact (key facts/examples)

- Major economies face destabilization as oil, coal precious metals and other once indicators of a successful economy are no longer
- Energy costs have been climbing with no end in sight, necessitating the move away from fossil fuels to renewable energy sources (SDG7)
- Avoiding legal and safety compliance, corruption and taxes, cross border transactions/operations abroad (SDG16)
- Smart cities, new technologies, innovation bringing growth and jobs back to the workers (SDG8 & SDG9 & SDG11)



Source: 2017 United Nations Sustainable Development Programme; International Monetary Fund.

Purpose and structure of study

- Determine the sustainability (SPS) of an enterprise based on innovations at the BM level (BMI) i.e: performance cf benchmark
- Identifying the business strategy which represents it's BM pattern in action (Mintzberg 2000, Ludeke-Freund et al. 2017)
- Enterprises operate within the sustainable value network (SVN)/Circular Economy (CE) (cf. Evans et al. 2017, EMF 2015)
- Transparent and publicly available data (e.g. GRI, CDP, <IR>, II, TRI)
- Consider science and context-based material topics (McElroy et al. 2015, Eccles 2017)
- Develops underlying framework for an assessment and management tool
- ► Allows for year-on-year & cross enterprise, cross sector & global comparisons

***SPS: Sustainability Performance Score

***SVN: Sustainable Value Network

*** < IR>: Integrated Reporting

***GRI: Global Reporting Initiative

***CDP: Carbon Disclosure Project

***SDGs: Sustainable Development Goals

Why is this study necessary (experts agree)

01

Sustainability is an *inter-disciplinary* topic and at the mercy of very *complex dynamics* that cannot be easily broken down into smaller manageable problems and solutions.

Instead a *holistic* top down principled and disciplined *systematic approach* is necessary to ensure workable solutions to these *wicked problems* so as to ensure society's ability to survive and thrive long term as a species.

02

Business working alongside **governments** are at the center of our economy, particularly in the developed world and increasingly so relying on **natural resources** and **human resources** from developing nations.

Failing to ensure sustainability of these resources ultimately will impact *business growth* and society's ability to survive and thrive long term as a species.

What we know (BM)

- How a business operates can be described through <u>BM patterns</u> (Mintzberg 2000, Amit & Zott 2012, Upward 2013) whereby the BM (organizational form) is an underlying predictor of performance... with studies showing that innovativeness (i.e: <u>disruptive innovation</u>, see Christensen 2005)) at the BM level is a source of success... (Ball 2006; Evans et al. 2017; Morioka et al. 2016; Schaltegger et al. 2016). Studies have identified certain (sustainable) BM patterns to be <u>more successful</u> than others (Ludeke-Freund et al. 2016). Science & Technology enabler for BMI.
- Taxonomies have been developed by Carroux 2017, Remane et al. 2017 and Bocken et al. 2014. <u>Descriptive tools and frameworks</u> include BMC (Osterwalder & Pigneur 2004), TLBMC (Joyce & Paquin 2016), FBC (Upward & Jones 2016) and SUST-BMA (first tool that aligns BM with SBSC and assessment)(Lüdeke-Freund et al. 2017).
- Analysis of transactions between a focal firm and its ecosystem of partners, customers, and suppliers transcend traditional firm <u>boundaries</u>. The link between BM, wealth creation and (financial) performance has been empirically shown to be a source of (sustainable) <u>competitive advantage</u> (Zott & Amit 2008). Business models are a better <u>predictor</u> of financial performance (and value creation) than industry classifications and some business models do, indeed, perform better than others (e.g. asset right use more valuable than asset ownership) (Malone et al. 2006).

***BMC: Business Model Canvas

***MCS: Multi Capital Scorecard

***BSC: Balanced Score Card

***SBSC: Sustainable Balanced Score Card

What we know (SPM)

- Sustainability of a business can be gauged with SPIs using a number of methods (Schaltegger et al. 2016; McElroy 2012; Figge & Hahn 2005). Aspects of <u>context</u>, <u>limitations and monetization</u> need to be considered, yet they are not always so. Also noteworthy, is that sustainability issues are largely being treated as <u>externalities</u> and therefore not reflected in market prices and transactions (Schaltegger and Burritt 2005).
- Example frameworks: the SBSC (Kaplan & Norton 2000) provides a strong tool for integrated sustainability (performance) management (Figge et al. 2002; Hansen & Schaltegger 2016) and is used to operationalize corporate strategy. Sustainable Value Added (SVA) is based on the paradigm of strong sustainability (Neumayer 2013) and shows performance relative to a benchmark (Figge & Hahn 2003). McElroy's context-based sustainability (CBS) MCS method incorporates thresholds and allocations, thus ensuring fairer assessment (i.e. science-based and ethics-based).
- Materiality: Mapping the 36 GRI <u>material topics</u> onto the BMC for assessing SPIs. <u>Integrated Reporting</u> (<IR>) provides transparent publicly available <u>context-based</u> tri-impact reporting contributing towards sustainable development (SD).

***BMC: Business Model Canvas

***MCS: Multi Capital Scorecard

***BSC: Balanced Score Card

***SBSC: Sustainable Balanced Score Card

The gaps: SBM vs SPM

- Trans-disciplinary (Ludeke-Freund 2016)
- Finite resources (Rockstrom 2009, Steffen et al. 2015)
- Complex wicked problems (Breuer & Ludeke-Freund 2017)
- Boundary/Unit of Analysis (Schaltegger at al. 2012; UNEP 2017; Evans et al. 2017)
- Materiality (UNEP 2015; Eccles 2012; Lai et al. 2017)
- Integrated reporting (<IR>)/Tri-impact (Eccles et al. 2018)
- Scientific evidence-based data/Congruent units (Lydenberg et al. 2010)
- Context-based sustainability (McElroy & Thomas 2015; Eccles 2018)
- Strong vs weak sustainability/Greenwashing (Upward & Jones 2016; Najam et al. 2000)
- Values-based (Breuer et al. 2017; Schaltegger et al. 2015)
- Multi-capital (McElroy & Thomas 2015)
- Linear to Circular Economy (CE) (Geissdoerfer et al. 2017)

Methodology & Research Question

- Bringing together knowledge thus far on BMI and SPM. Adopting a rationalist world view, the study proposes to construct a theoretical foundation for the framework linking BMI and SPM to corporate sustainability.
 - ► How does (BM) innovation drive a successful sustainable business strategy?
- ▶ Emergent meta-analysis process: define criteria for selection (inclusion/exclusion); expansive/exhaustive systematic review of peer reviewed journals & credible grey literature (tools: EN & Nvivo and mind mapping tools). Thematic analysis.
- Augments a number of initiatives by several organizations who are approaching this topic from an **empirical industry perspective**: WikiRate, World Business Alliance (WBA), Global Reporting Initiative (GRI) to name a few. Some provide global repositories such as GRI, Carbon Disclosure Project (CDP), Climate Counts (CC), and CHRHub for sustainability related data.



Rigour, Biases & Lens

- Reliability and Validity (Appendix S)
 - Rigour through triangulation of qualitative & quantitative data (Morse 1991)
 - Improve validity through maximum variation with literal and theoretical replication (Patton 1990)
 - Multi-case study (Yin 2004, 2014) external validity through replication logic (Morse 1991)
 - Multiple sources of evidence: journal articles, conferences, expert discussions, official websites, narratives (Yin 2004)
 - ► Chain of evidence (Healy & Perry 2000; Huberman & Miles 2002)
- ► Respondent and Researcher Biases (Appendix R)
 - Control for research biases (Creswell 2013; Bryman 2016)
- Transformative framework or lens
 - Aimed at social well-being; call to action (Mertens 2007)
- Database of sources
 - ► EN (sources), Nvivo (analysis) and FreeMind (concepts)

Sustainability Performance Scorecard

Enterprise	Industry (ICB)	SBM pattern # [145]	SPI score [01]	Sustainable [Y N]
Johnson & Johnson	Pharmaceutical	32	0.768	Υ
Apple	Technology	14	0.625	Υ
Unilever	Household Goods	07	0.891	Υ
PepsiCo	Consumer Goods	27	0.503	Υ
Pfizer	Health Care	45	1.106	N
Deutsche Bank	Financial Services	39	1.282	N

SPI score: 0<= score <= 1 means sustainable enterprise [Y], score >1 means NOT a sustainable enterprise [N]. Context based sustainability (CBS) SPI scores will be calculated at a minimum from GHG emissions worldwide. More comprehensive composite scores across multiple material topics may be possible using data from WikiRates.

Figure A-2. SPI ScoreCard developed by the Author for this study. For illustration purposes only.

***SBM: Sustainable Business Model

***SPI: Sustainable Performance Indicator

Research Design & Analysis

- Phase I: Exploratory conceptual case study. Extensive Literature Review. Using mixed approach synthesizing qualitative & quantitative findings.
- Phase II: Empirical case study:
 Selected case studies of
 multinational corporations
 across multiple industries
 (Apple, J&J, TESLA, Siemens,
 Westpac, Amazon, Kodak,
 Nokia, Tata, Netflix, Xerox). BM
 as the unit of analysis.

*** Onwuegbuzie et al. 2010; Cameron & Miller 2007; Eisenhardt 1989

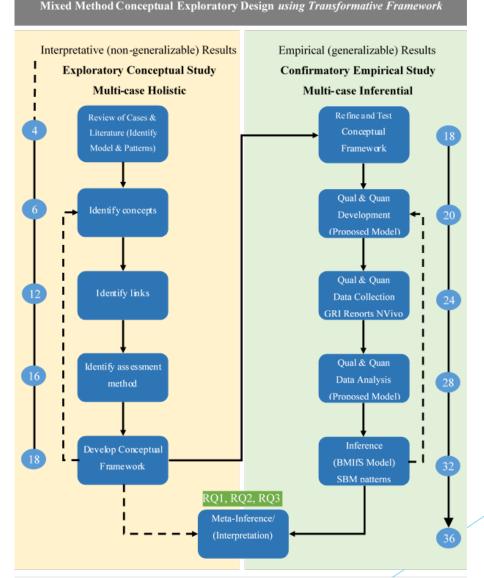
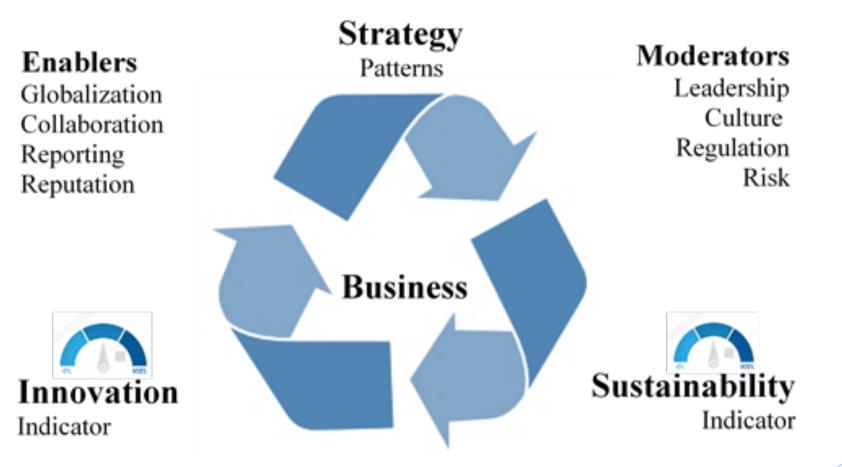


Figure Error! No text of specified style in document.-1. Mixed Method Exploratory Case Study Research Design, developed for this study by the Author. Links the Conceptual framework (BMJS) to RQ1, RQ2 and RQ3. Numbers inside circles represent research timeline in months. Diagram shows potential successive iterations may take place (dotted line). Data collection tools as shown. Design theory sourced from Pluye and Hong (2014).

Conceptual Framework (transformative lens)



"Every responsible act has a sustainable impact"

Morris D Fedeli

Figure A-2. Conceptual framework developed by the Author for this study.

Electric

Vehicle

Charging

Stations

Satellite-

controlled

Lighting

Research Procedure & Process

- NBM: descriptive: FBC (Upward)
- SBM: identification/taxonomy: classification: SBM patterns (Carroux)
- SPM: contextualization/determination: MCS (McElroy)
- Issues: Materiality, Context based, Multi-capital, Integrated etc. (*see "The Gaps" slide); use of proxies
- Formulate Theoretical Framework (SBM vs SPM): e.g. overlay GRI material topics onto BMC/FBC, determine proxies e.g. total societal impact (TSI), cross sector weights/adjustments
- Transparent and open publicly available data sources/reports: e.g. GRI, CDP, <IR>
- Sustainability Performance Scorecard (SPS)

***MCS: Multi Capital Scorecard

***SPM: Sustainable Performance Measurement ***NBM: New Business Model ***SBM: Sustainable Business Model

Waste Management

Sustainability

Corporate Office &

Tenant Education

Renewable

Power &

Energy

Efficiency

Development

& Renovation

Efficiency

Sources, Resources & Ethics

Primary data sources: Journal articles, audited company statements, sustainability reports (or illustrative data)

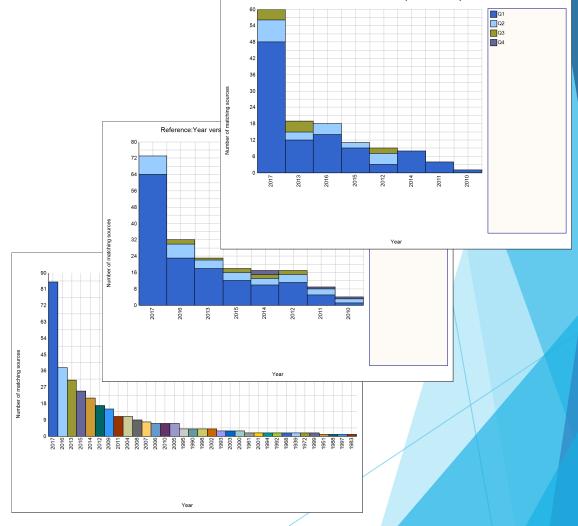
- * Climate Counts (2013) provides a useful set of <u>data</u> for the 2007-2012 period.
- * GRI sustainability reports/CDP provides audited publicly available corporate <u>sustainability performance</u> data and <u>materiality topics</u> for evaluation.

Secondary data sources: Conferences (NBM), corporate websites, news articles

Resources: Application has been made for funding, however this largely theoretical project is <u>not dependent</u> on any of these funds. The Author is covering all costs.

Ethics:

- * There are no participants officially being interviewed as part of this study
- * This study is not being funded by any organization.



*** 2200hrs+; 404 key sources; 600+ other sources

Timeframe & Milestones

STUDENT	#10 9	7268	Student: Ma	auro (Morri	s) Fed	eli			Cour	se: Di	BAR/P	hD														
Course	Units	Task	Details	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
RSH8000/RSH8001/RF	10		Completed/Exempt																								
HDR Library		Study	HDR Library & Info Tutorial																								
		Study	Nvivo software Research Tool																								
		Study	SMART PLS software Stats Tool																								
DBA9400	4	Proposal	Literature Review Research & Write Up				Cano	lidature																			
		Proposal	MethodologyMethods & Write Up																								
DBA9400	4	Proposal	Ethics Approval																								
		Thesis	Data Collection/Analysis																								
DBA9400	4	Thesis	Data Analysis/Interpretations																								
		Thesis	Validity & Reliability																								
DBA9200	2	Thesis	Write Up Outcome/Supervisor Review																								
		Thesis	Review Thesis • Final Draft																				Submi	t Thesis			
		Thesis	Contingency																								
Credit Points	24	1		ż	1.5	2.5	1	3.5	3.5	3.5	3.5	3.5	4.5	4.5	4.5	4.5	4.5	5.5	5.5	4.5	3.5	4	4	3	3	3	1



Contribution & Significance

Several studies explain that when it comes to innovating and implementing sustainable BMs, business leaders and innovators *do not know where to start* (Schaltegger et al. 2016; Breuer & Lüdeke-Freund 2017; Kurucz et al. 2017; Lüdeke-Freund et al. 2017).

Establish the *linkages between business models (BMs) and sustainability performance (SPM)* and provide approaches to their *identification and systematic assessment and management* (Lüdeke-Freund et al. 2017). Quantifying sustainability performance measurement (SPM) and qualifying business models (BM).

Develop a framework to assess the effects of innovation and business models on corporate sustainability performance. Identifying what BM tools and methods could largely ensure the long term sustainable success of a business? How does (BM) innovation drive a successful sustainable business strategy?

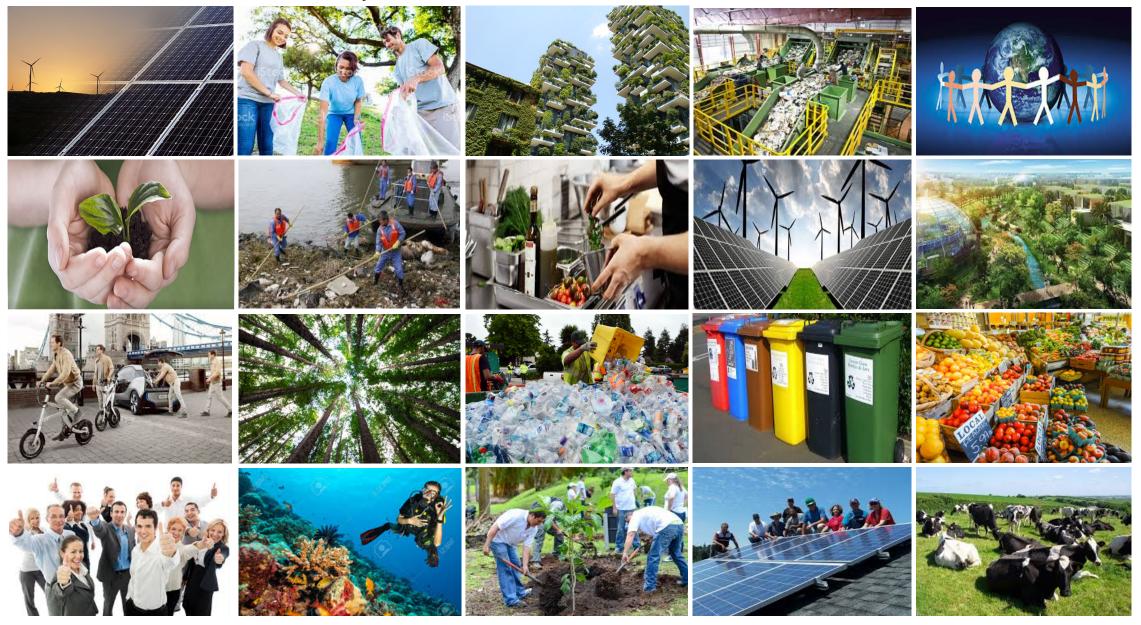
Original contribution to BMfS whereby I contend that radical corporate innovation (particularly at the BM level) is the single biggest contributor to sustainability and thus the long term survivability of the human species.

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Enterprises transform BM for a linear economy...



... to a SBM for a circular economy.



Closing: Thank You! Comments, Questions, Feedback?



"Innovation is imperative. It's the only insurance against irrelevance."

Morris D Fedeli

Supplemental Topics, Tables & Figures

Research Dimensions & Questions

Sustainable Value Network (Evans)

UN SDG

FBC (Upward)

TLBMC (Joyce)

GRI Report: J&J

GRI Material Topics

GRI Sustainability Development Database

Evolution of BMI to SBM

Planetary Boundaries (Steffen)

The Doughnut (Raworth)

MultiCapital Scorecard (McElroy)

Methodology (Tranfield)

Endnote References

Common Questions and Answers

What leaders & Experts have to say

Research Dimensions and Questions(table 4-1)

		Gene	ral Resea	arch Dimens	sions		
	Worldview		Aŗ	oproach			
Ontology	Epistemology	Paradigm	Design	Framework/ Type	Logic	Outcome	Ethics
Atheist Realist	Rationalist	Critical Realist	Explorato ry Multi- case	Mixed Method Transformative Observational	Deductive	Cross- Sectional Basic Theoretical	Humanist

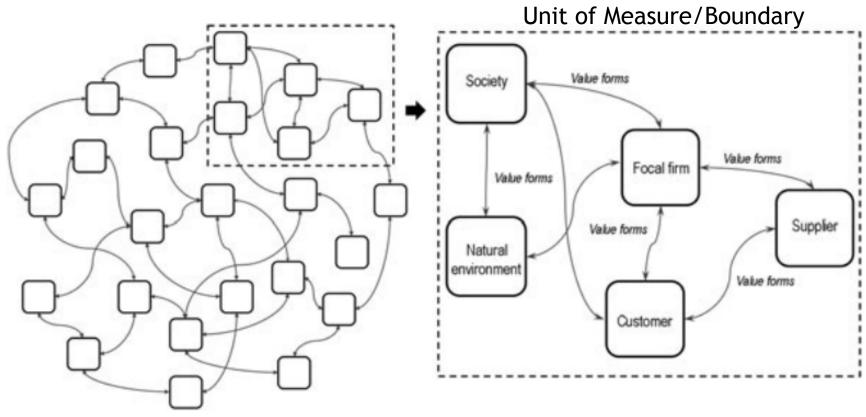
Table 4-1. General Research Dimensions for this study, as established by the Author.

How does innovation drive a successful sustainable business strategy?

RQ	Research Question	Approach
RQ1	What is the theoretical framework (TF) that links Innovation to Sustainability?	QUAL
RQ2	What business models (BM) deliver the most sustainable outcomes?	QUAL/QUAN
RQ3	What sustainable performance indicators identify business models that deliver	OLIAL (OLIANI
	the best sustainable outcomes?	QUAL/QUAN

Table 3-1. Research Questions, developed for this study by the Author.

Appendix D: Sustainable Value Network



Sustainable Value Network by Evans et al. (2017).

Appendix V: UN Sustainable Development Goals (SDG)

UN Sustainable Development Goals have been established to ensure that our planet may sustain the possibility for human and other life to flourish forever



Figure V-1. Sustainable Development Goals. Source: United Nations.

An
Enterprise
needs to do
good AND do
well in order
to meet
SDGs.

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Appendix W: Flourishing Business Canvas (FBC)

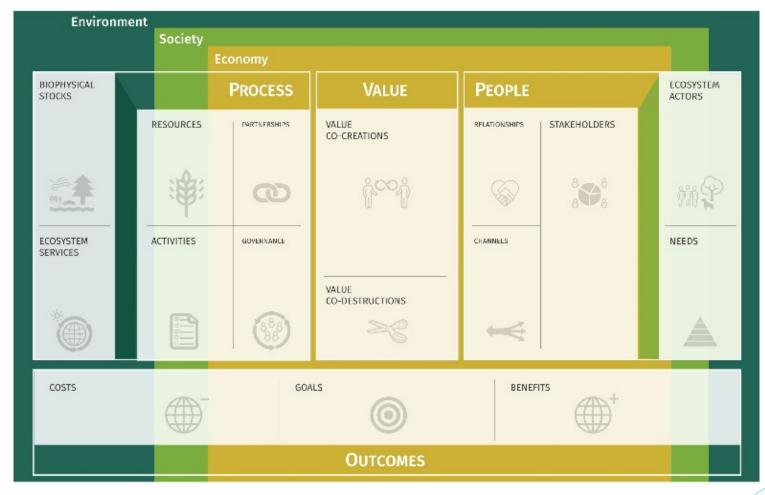


Figure W-1. Flourishing Business Canvas (FBC) developed by Antony Upward 2013.

Appendix O: Triple Layered Business Model Canvas

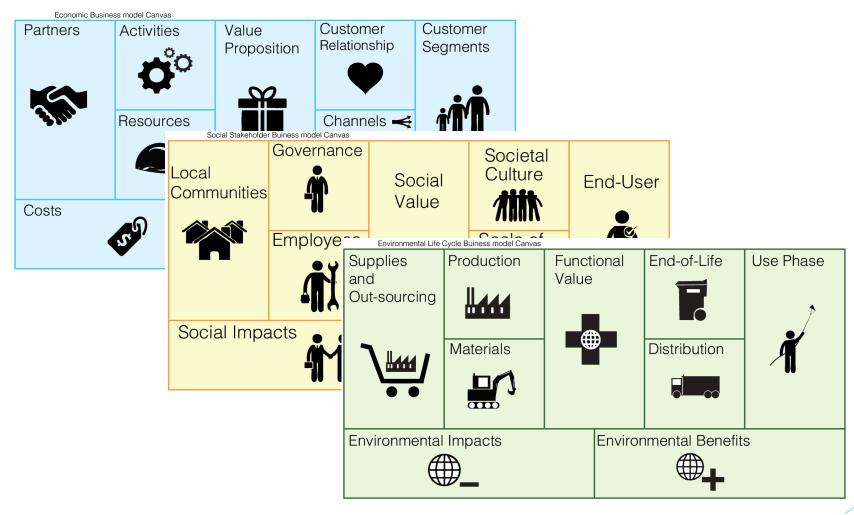


Figure O-1. Triple Layered Business Model Canvas used in this study by the Author. Originally developed by Osterwalder and Pigneur (2010) and adapted by Joyce and Paquin (2016).

Appendix L: GRI Report 2017 by Johnson & Johnson



Why It Matters

Johnson & Johnson is committed to legal compliance and upholding the highest ethical standards in every aspect of our business and in every market where we operate. By conducting business with integrity, we sustain the trust of our patients, health care providers, customers, partners and the communities we serve; and reinforce shareholder and investor confidence in the long-term health of our business. Above all, as a Company guided by Our Credo values, we believe acting ethically and responsibly is the right thing to do.

How We Approach It

The Johnson & Johnson Family of Companies has the privilege of doing business in many countries and regions around the world. In every single location, employees at every level have the responsibility to know and follow all laws and regulations that apply to our business.

Our Company has comprehensive policies, procedures and required training that help employees comply with laws and regulations. The Johnson & Johnson Law, Health Care Compliance & Privacy (HCC&P), Quality & Compliance, Environment, Health, Safety & Sustainability (EHS&S), Human Resources and Finance departments are available to help all employees navigate the laws and regulations that impact our work. GRI 102-17

Additional details concerning policies and procedures that define what we expect of our people and our business partners throughout the world can be sond in ext. Policies and Statements.

Compliance

Our Code of Business Conduct requires that all employees comply with all laws and regulations governing our Company's behavior.

When this is not the case, information is reported internally within the organization to senior management and, as appropriate, also shared with the Johnson & Johnson Executive Committee, the Board of Directors and/or the external auditors. When public disclosure criteria are met, anticompetitive behavior, antitrust claims, product liability claims, and lawsuits that cover customer health and

safety, labeling or marketing, as well as corrective actions and resulting fines and penalties, are outlined in our 10-Q and 10-K filings. See Note 21 on page 73 of our 2016 Annual Report. GRI 205-3, 206-1, 416-2, 417-2, 417-3, 419-1

Environment, Health, Safety & Sustainability Compliance

Our operating model takes advantage of the local knowledge of our EHS&S professionals in the markets where we operate, while continuing to leverage technical expertise across the enterprise, develop strategy, oversee talent management and execute governance. For more information on our management approach, see EHS&S Governance.

The EHS&S categories of non-compliance were expanded in 2014 to include noncompliances associated with areas such as fire codes, food service, elevators and boilers. The areas being managed and reported as part of our compliance program now reflect a more inclusive and holistic view of our operations, going beyond the traditionally reported areas of EHS&S compliance. Our aim is to achieve zero accidental releases, regulatory noncompliances and fines.

In 2016, we experienced 17 accidental releases and 144 environmental non-compliances. None of the accidental releases were considered to be significant, as defined by the clobal Reporting Initiative discloure 306-3.

Non-Compliances and Accidental Releases, 2012—2016¹					
	2016	2015	2014	2013	2012
Accidental Releases — number of events	17	30	24	7	8
Environmental Non-Compliances — number of individual findings	144	77	7 2	45	29
Health & Safety Non-Compliances — number of individual findings	182	398	192	7	6

*Includes data from all manufacturing, R&D, wavehouse, distribution center and office buildings locations. Beginning in 2014, we included several new E15&S categories of non-compliance such as non-compliances associated with free codes, food service, elevators and boilers. 2016 HEALTH FOR HUMANITY REPORT

Figure L-1. Sample report, page 93 from Johnson & Johnson HEALTH FOR HUMANITY REPORT 2016 highlighting reference to GRI 102-16 and GRI 306-3 disclosures.

Appendix I: GRI Reporting Material Topics

Standard	Number	Title
Series		
GRI 100	101	Foundation
Cid ivo	102	General
Foundation		Disclosures
roundation	103	Management
		Approach
GRI 200	201	Economic
		Performance
Economic	202	Market Presence
Economic	203	Indirect Economic
		Impacts
	204	Procurement
		Practices
	205	Anti-corruption
	206	Anti-competitive
		Behavior.
GRI 300	301	Materials
	302	Energy
Environmental	303	Water
Ziivii oiiiiioiidi	304	Biodiversity
	305	Emissions
	306	Effluents and
		Waste
	307	Environmental
		Compliance
	308	Supplier
		Environmental
		Assessment

GRI 400	401	Employment
Social	402	Labor/Management Relations
SOCIAL	403	Occupational
		Health and Safety
	404	Training and
		Education
	405	Diversity and
		Equal Opportunity
	406	Non-
		discrimination
	407	Freedom of
		Association and
		Collective
		Bargaining
	408	Child Labor
	409	Forced or
		Compulsory Labor
	410	Security Practices
	411	Rights of
		Indigenous Peoples
	412	Human Rights
		Assessment
	413	Local
		Communities
	414	Supplier Social
		Assessment
	415	Public Policy
	416	Customer Health
		Safety
	417	Marketing and
		Labelling
	418	Customer Privacy
	419	Socioeconomic
		Compliance

Table I-1. Table of GRI Standards (https://www.globalreporting.org/ standards).

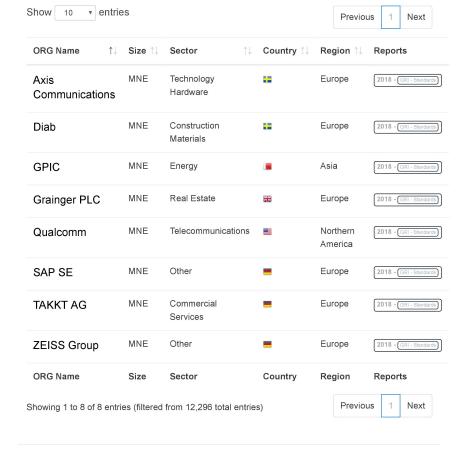
Appendix J: GRI Sustainability Development Database

018 SDD - GRI Database

All GRI Standards reports that have been listed on the Sustainability Disclosure Database before 1 March have been temporarily removed. GRI has reached out to these reporters to ask for confirmation of the report details. The previously listed GRI Standards reports will reappear on the Sustainability Disclosure Database once they have been confirmed by the reporters through the GRI Standards Report Registration System. If you have questions about this process, please contact the GRI Standards Division at standards@globalreporting org.

Need more information about the data tracked in the Database? Explore the Data Legend.

Search results



Appendix C: Evolution of the (BM)I to the S(BM)

The evolution of the BM concept linking innovation to sustainability across the Sustainable Value Network (SVN) as illustrated by the Author.

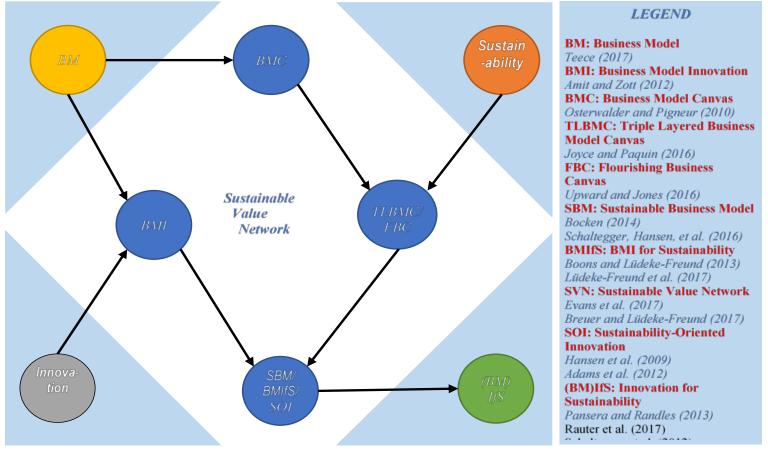


Figure C-1. The Evolution of the BM concept linking Innovation to Sustainability across the Sustainable Value Network, illustrated by the Author.

Appendix X: Planetary Boundaries

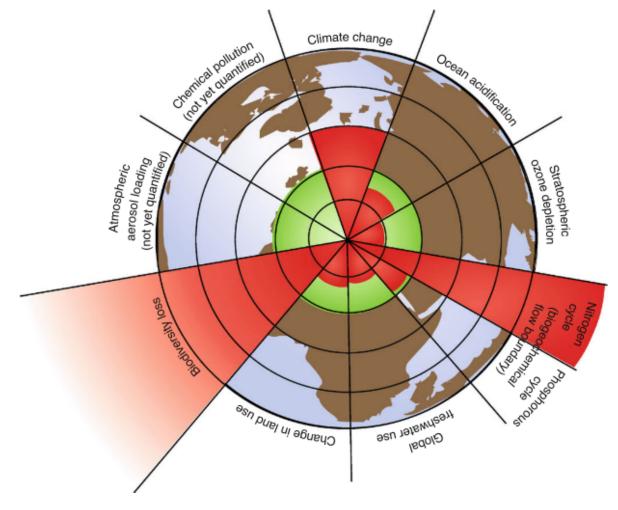


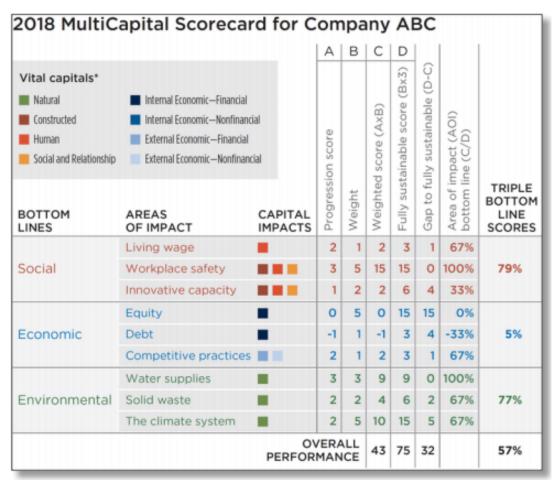
Figure X-1. Planetary Boundaries by Steffen et al. (2015).

The Doughnut



The Doughnut (Source: Kate Raworth, Doughnut Economics: 7 Ways to Think Like a 21st Century Economist, White River Junction: Chelsea Green, 2017.)

MultiCapital Scorecard

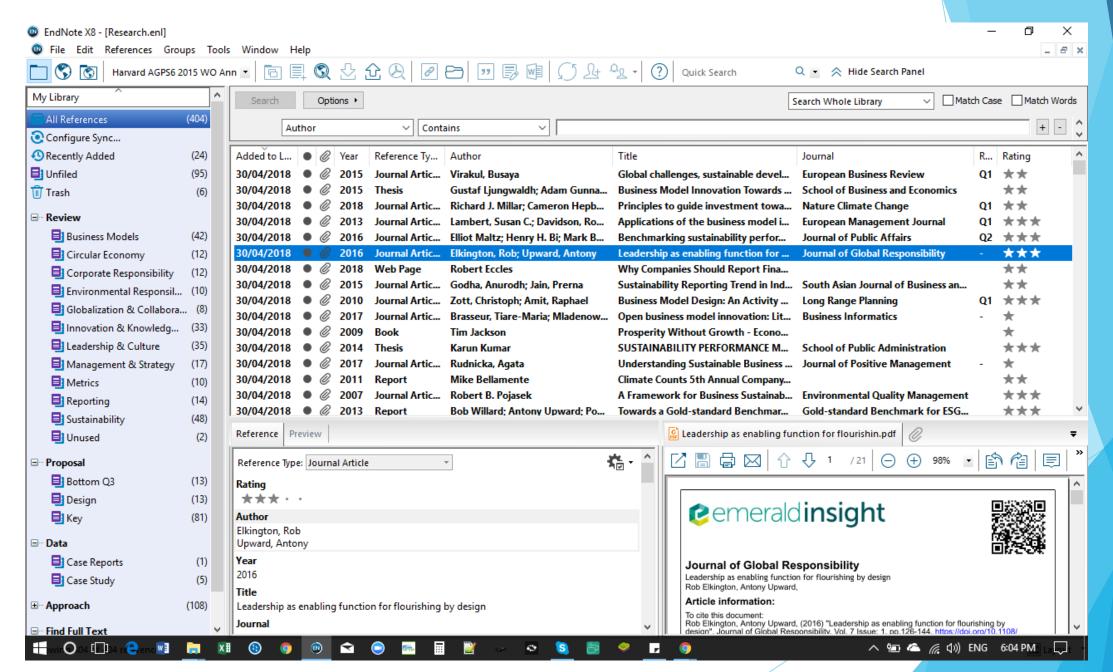


	Vital Capitals	
Human	Internal Economic Financial & Non-Financial	
Social & Relationship		Natural Natural Resources &
Relationship	External Economic	Ecosystem Services
Constructed	Financial & Non-Financial	
Social	Economic	Environmental
Bottom Line	Bottom Line	Bottom Line

Methodology (steps)

- Stage I-Planning the review
 - Step 0 Identification for the need for a review
 - Step 1 Preparation of a proposal for a review
 - Step 2 Development of a review protocol
- Stage II-Conducting a review
 - Step 3 Identification of research
 - Step 4 Selection of studies
 - Step 5 Study quality assessment
 - Step 6 Data extraction and monitoring progress
 - Step 7 Data synthesis
- Stage III-Reporting and dissemination
 - Step 8 The report and recommendations
 - Step 9 Getting evidence into practice

[&]quot;Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review" by David Tranfield et al. (2003).



Common Questions and Answers

- ▶ *I do not believe in anthropocenic climate change*: regardless if man-made or not, increase in carbon emissions is detrimental to the longevity of humans and other species on earth; 97% of scientist agree we need to take action now (see slide on population growth and CO₂ emissions) (Cook et al 2009).
- ▶ It would be the pinnacle of entrepreneurship if one could establish which business models are more successful than others represents: yes, it would be, however this study adopting future-fit targets, will conceptually and empirically show which organizations are more likely to succeed; there are no guarantees.
- ► Given that the WBA is developing 'league tables', why is this study needed? League tables, much like the Wikirate or the CHRHub database or even a context-based (CBS) GRI strictly deal with the data capture aspect of this research. Still need a strong conceptual basis. Hence I am on reporting 3.0, WBA, GRI and working with Wikirate organization.
- Why is it necessary for context-based (CBS) data source when sustainable value added (SVA) or GRI intensities would be sufficient? SVA assumes targets based on GDP are sustainable which may not be. Also GDP is NOT a good measure of sustainability. Intensities are not very good measures either.

What leaders and experts have to say...

"Ranking companies on their actual behavior doesn't only drive the top of the list to set new boundaries, it also stimulates the companies in the lower regions to adapt their strategy and behavior."

Wim Leereveld (Chairman of the Board Index Initiative & Founder Access to Medicine Index)

"...we are not sustainable unless we innovate, and in order to innovate, we have to be sustainable"

Ernesto Ciorra (Head of Innovation and Sustainability at Enel)

"We strongly support creation of corporate SDG benchmarks that harmonize and build on existing corporate reporting requirements and frameworks. This would for the first time enable leaders and boards of companies, policymakers, civil society and investors to quickly and easily compare relative performances of companies within a sector, over time, on a range of relevant SDGs. A well-designed benchmarking process allows companies to develop sustainably in line with the SDGs, while setting them on a race to the top."

- Better Business, Better World



By Morris D Fedeli © 2018. Student ID: 1097268. Faculty of Business.

Panel Presentation for USQ DBA/PhD program.

Supervisor: Dr Fernando Padro

Dr Paul O'Brien

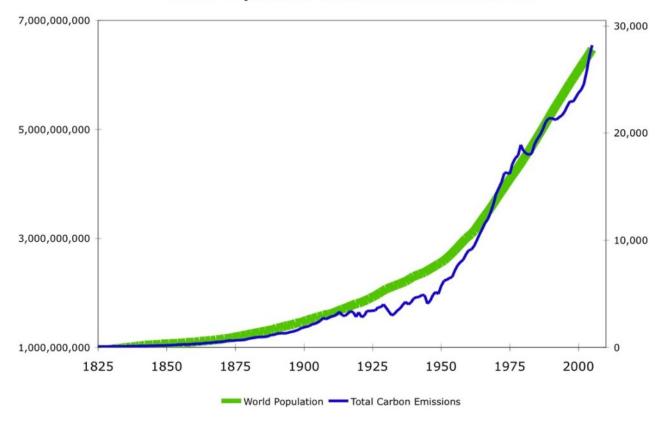
Fast Facts (global worldwide: slowly we are improving)

- ▶ GHG: emissions from pre-industrial 280ppm to currently 400ppm
- Water: 1 in 5 people do not have access to clean safe drinking water
- Waste: 13 tons/single second; 60 kg for every single person in the world;
 1.6 Gtons of food wastage annually; about 1/3 of all food produced
- Deforestation: > 80 % of the Earth's natural forests have been destroyed
- Sea-level rise causing whole nations to submerge (e.g. Kiribati, pop. 100k)
- Ocean acidification: whereby over 25 species become extinct daily (reduction in levels of biodiversity)
- Workplace safety: 2.3m annual work related deaths
- Inequality: 82 % of the wealth is in the hands of 1 % of the population
- Living wage: 3B people live < \$2.50/day; 1.3B live in extreme poverty < \$1.25/day; 3.7B people earn zero
- Fossil-free nations: Spain, Sweden, Denmark (100 giga factories would do it!)
- Innovative capacity: recently developing nations entering into "Top 25"
- Competitive practices: creates wealth and reduce poverty

Source: UNEP 2017; WRI 2015; ILO 2015; Oxfam 2017; WIPO 2017; OECD 2008

Population growth & CO₂ emissions

World Population & Total Carbon Emissions



Source: IIASA 2002

"Innovation as the Key Driver of Sustainable Agriculture and Future Food Security in the Developing World".

CHANDRAJIT BANERJEE

Director General Confederation of Indian Industry