



THE RISKS OF SUSTAINABLE BUSINESS STRATEGIES: DO SUSTAINABLE BUSINESS APPROACHES CHANGE COMPANY RISKS?

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ABSTRACT

PURPOSE: The aim of this research is to link sustainability strategies with risk management.

DESIGN/METHOD: 33 unique cases were used for the data analysis. Using the cases, the researchers built a database to operationalise the theoretical framework. This database contains data on general characteristics of an organisation, strategic characteristics (mission, vision, value proposition, core values from the Balanced Score Card categories, strategic goals), strategy characteristics of the sustainability strategies, the 17 sustainability goals of the UN, risks (strategic, financial, operational) and control measures appropriate to the risks.

RESULTS/FINDINGS: The first sub-question: Which risks at a strategic, financial, and operational level differ in organisations that pursue SDG 3 Good health and wellbeing, SDG 8 Decent work and economic growth and/or SDG 12 Responsible consumption and production, or do not pursue sustainability goals? It can be answered that sustainable values lead to different risks at strategic and financial levels, but not on an operational level.

The second sub-question: Which risks on a strategic, financial, and operational level differ in organisations that pursue the sustainability strategy (Retain product ownership, Product life extension and/or Design for recycling) or do not pursue a sustainability strategy? It can be answered in a similar way as the first research question: that apparently sustainable strategies lead to different risks at strategic and financial levels, but not on an operational level. Operational risks were found but did not change in case of the sustainable strategy.

ORIGINALITY/VALUE: Researchers have investigated whether pursuing the sustainability strategy (part 1) or contributing to the achievement of SDGs (part 2) by an organisation causes a change in strategic, financial and/or operational risks. Patterns were sought, not the magnitude of a change, because of the number of cases examined.

KEYWORDS: risk management, sustainable, business model, case study, added value.

JEL: A12, A13, D7, D70.

1. INTRODUCTION

Decision-making processes are more complex for companies with a sustainable business model than in case of a more traditional business model; it involves a wider range of decision-making. The concept of corporate sustainability, based on three essential pillars – economic, social and environmental – represents the evolution of a continuous process of paradigm breaks. In this evolution, the focus of the business management changes from a one-dimensional view-ruled, exclusively, by profit-driven – to a perspective that also considers social and ecological aspects in the decision-making processes (Da Silva & Filho, 2020).

If we want to aid the transition towards a more sustainable society, we must commit to make more eco-friendly decisions about the goods and services we buy and the transport we take. It is important that companies in the public and private sectors also take environmental and social measures. Businesses and governments must strive to manage natural resources better in order to protect the environment for future generations (Santander, 2021). The existing socioeconomic and political structures determine the existing valuation structures as well as the resulting policy decisions. As a result, decision-making about natural resource issues and environmental management is often driven by the short-term imperatives of economic gain and political expediency, and there is a little interest in identifying remote implications of decisions (Shi, 2004). Decision analysis is often used to help decision makers choose among alternatives, based on the expected utility associated with each alternative as a function of its consequences and potential impacts. Environmental impacts are not always among the prioritised concerns of traditional decision-making (Dong et al., 2018). At the same, time the importance of new, more sustainable business models is increasingly stressed by governments, entrepreneurs, and consumers.

A transition to the sustainable market requires different behaviour from the players as well as different guiding principles (Boersma, 2021). The shift towards a more sustainable (circular) economy will require more sustainable business models. It has been noted that the concept of the circular economy has increased the complexity of business models, due to social return and new characteristics (such as delayed cash flows, different transaction models) of the business models involved (van der Hoeven & Bossert, 2020). A business model is a concept to organise value creation. It is in collaboration with other parties, based on a specific strategy and always within a specific context (Jonker, Faber, & Warlich, 2020). A business model for sustainability helps in describing, analysing, managing, and communicating (i) a company's sustainable value proposition to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organisational boundaries (Schaltegger, Hansen, & Lüdeke-Freund, 2016). With a sustainable business model, the important addition compared to a normal business model is that other economic values are also pursued. The way of thinking behind the business model determines whether it is sustainable or not. The traditional business model achieves good results in a situation of linear thinking. However, these are not very flexible in a changing market to remain successful. A sustainable business model is all about reconnecting. An organisation should look at its own business completely differently and organise it completely differently (De Vries, De Vries, & Kikkert, 2019).

Policy-making often follows governmental organisations in maintaining the seventeen 'sustainable development goals' (SDGs) formulated by the UN (2015) as the benchmark. This view also recognises that other ways of dealing with sustainability require different business models and new methods. Many authors, such as Jonker, Kothman, Faber, and Montenegro Navarro (2018), link concepts such as new business models and multiple value creation to the implementation of the circular economy, or other concepts that express the need for new and complex economic models to make our societies more sustainable.

However, it is this sustainable entrepreneur that is facing an increasingly complex context for sustainable business. The increasingly complex context comes often with intensified risk environment. The relation between sustainable goals and risk has been studied in this research.

In this research design, the authors hope to discover a relationship between sustainability goals and strategies with risks that apply in an organisation. It was mainly looked at whether a pattern can be seen or not. The research question that is answered by this study is as follows:

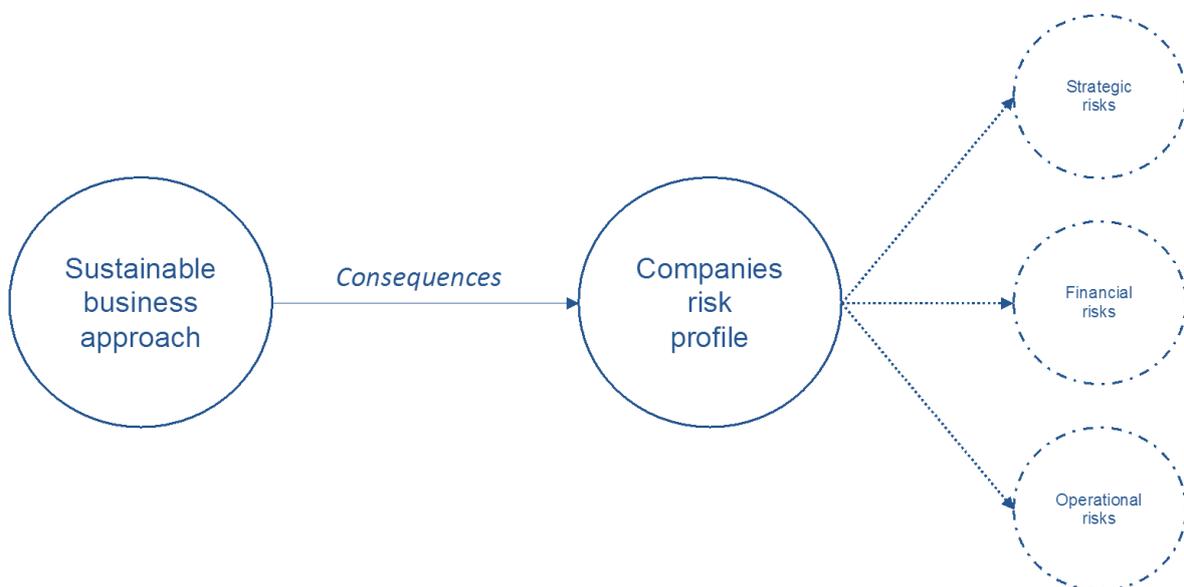
“Do sustainable business approaches change company risks?” In order to be able to answer that question, two sub-questions have been used, namely:

1. Which risks at a strategic, financial, and operational level differ in organisations that pursue SDG 3 Good health and wellbeing, SDG 8 Decent work and the economic growth and/or SDG 12 Responsible consumption and production, or do not pursue sustainability goals?
2. Which risks on a strategic, financial, and operational level differ in organisations that pursue a sustainability strategy (Retain product ownership, Product life extension and/or Design for recycling) or do not pursue the sustainability strategy?

2. SUSTAINABLE BUSINESS CHANGES COMPANY RISKS

In this study, it has been looked at how sustainable business models affect the risk profile of a company, if so and how. Therefore, a logical model assuming that implementing a sustainable business approach has consequences for the risk profile of the company has been designed. That risk profile could differ in strategic, financial, and operational risks perceived by the company involved (see Figure 1).

Figure 1. Logical model



Sustainable business approaches deal with the customers you target, what you offer, how you create products and services and what value you add to generate profit. These aspects, “what – value – how”, form a ‘triangle’ that determines the business model innovation (Gassman, Frankenberger, Choudury, & Csik, 2020). Figure 1 analyses the sustainable business approach and the consequences for the risk profile of a company. Successful sustainable business approaches ensure that value is created for the customers without depleting the natural, economic, and social capital (Breuer & Lüdeke, 2014). What value is in most organisations referred to as one or more of the 17 United Nations SDG’s (2015, United Nations sustainable

development goals. UN. Org.)? Atasu, Dumas, & Van Wassenhove (2021) comes up with three different successful strategies, that can create a sustainable business model. However, most companies involve a combination of three basic strategies: retain product ownership, product life extension, and design for recycling. Atasu, Dumas, & Van Wassenhove (2021) describes the sustainable business strategies as follows:

a) *Retain product ownership (RPO)*

In this business approach, the producer rents or leases its product to the customer rather than selling it. Consequently, the producer is responsible for products when consumers have finished with them. The lease or rent transaction model creates a recurring business that is often useful for more complex products or services.

b) *Product life extension (PLE)*

Companies applying this strategy focus on designing products to last longer, which creates possibilities for markets in used products and a longer product life cycle. Durability is a key competitive differentiator and provides a strong rationale for premium pricing.

c) *Design for recycling (DFR)*

With this strategy companies redesign their products and manufacturing processes to maximise recoverability of the materials involved for the use in new products. This strategy often involves partnering with companies that have a technology focus that may enable to use the materials recovered.

The combination of values and strategies of a sustainable business approach determines our research framework as shown in Table 1. For value the characteristics are given through 17 SDG's, while for how the characteristics are given by the above mentioned product strategies by Atasu, Dumas, & Van Wassenhove (2021).

Table 1. Our research framework for sustainable business approaches

Business approach		Value types & strategies	Characteristics
What?	Value?	17 SDG's (UN)	1. No Poverty
			2. Zero hunger
			3. Good Health and wellbeing
			4. Quality Education
			5. Gender equality
			6. Clean water and sanitation
			7. Affordable and clean energy
			8. Decent work and economic growth
			9. Industry, innovation, and infrastructure
			10. Reduced inequalities
			11. Sustainable cities and communities
			12. Responsible consumption and production
			13. Climate action
			14. Life below water
15. Life on land			
16. Peace, justice and strong institutions			
17. Partnerships for the goals			
		<i>No sustainable values</i>	
How?	Retain product ownership		1. Product responsibility
			2. Recurring business
			3. Complex products
	Product life extension		1. Life cycle
			2. Premium pricing
			3. Used products
	Design for recycling		1. Redesign products/ processes
			2. Partnerships
			3. Technology focus
			<i>No sustainable strategy</i>

3. RESEARCH METHODOLOGY AND DESIGN

As to explore this in practice, 33 case studies to give potential ground for a larger researcher program to be developed have been executed. Student reports have been used to gather the data on perceived risks in these cases. Therefore, the students were trained in risk reporting and investigation by the application of the COSO model (see COSO 2013 and 2017). These risks reporters were supervised and had to pass an exam for it as a condition to take the data into account¹. The data for the risk inventory was obtained through written sources, interviews with the organisation's client and other officials. A total of 36 cases were delivered. 35 of these have been completed with a satisfactory assessment. In addition, one organisation was treated in three cases, of which two cases were removed from the selection. This left 33 unique cases that were used for the data analysis.

Using the cases, the researchers built a database to operationalise the theoretical framework (Annex, Table A1). This database contains data on general characteristics of an organisation, strategic characteristics (mission, vision, value proposition, core values from Balanced Score Card categories, strategic goals), strategy characteristics of the sustainability strategies, the 17 sustainability goals of the UN, risks (strategic, financial, operational) and control measures appropriate to the risks.

First, the researchers were curious whether risks differ in organisations that do or do not pursue sustainability goals (Annex). The steps that have been taken for this are as follows: the companies (8) that do not pursue sustainability goals have been selected, the risks of which have been examined at the strategic, financial, and operational levels. These risks were sorted from the most frequent ones to the least mentioned. Subsequently, a cut-off limit of 15% was determined for the strategic and operational risks and 7.5% for the financial risks (because the risks mentioned are much more diverse). Of the 33 cases, 8 are cases in which the organisation does not pursue sustainability goals. The sustainability goals that are the most often pursued by the other 25 cases are SDG 3 Good health and well-being (18), SDG 8 Decent work and economic growth (15) and SDG 12 Responsible consumption and production (11). For these SDGs it is determined which risks are the most often mentioned at the strategic, financial, and operational levels. In this way, risks at the strategic, financial and operational levels can be compared for organisations that do not pursue sustainability goals and organisations that do so referring to SDG 3, SDG 8, and SDG 12.

The aim of the second part of this research was to investigate which risks at the strategic, financial and operational levels apply to organisations, if they do not pursue a sustainability strategy, or if they meet at least 2 of the three characteristics of a sustainability strategy. Out of the 33 cases, 13 were the organisations that did not adhere to a sustainability strategy; 20 which did comply with a sustainability strategy (then at least 2 out of the three characteristics of at least one of the three sustainability strategies were met). Retain product ownership (12), Product life extension (5) and Design for recycling (15) are the sustainability strategies. A cut-off limit of 10% has been used, which means that the risks mentioned form at least 10% of the total risks. This gives the insight into the difference in risks of organisations that do not pursue a sustainability strategy and organisations that do so in the form of Retain product ownership, Product life extension and/or Design for recycling.

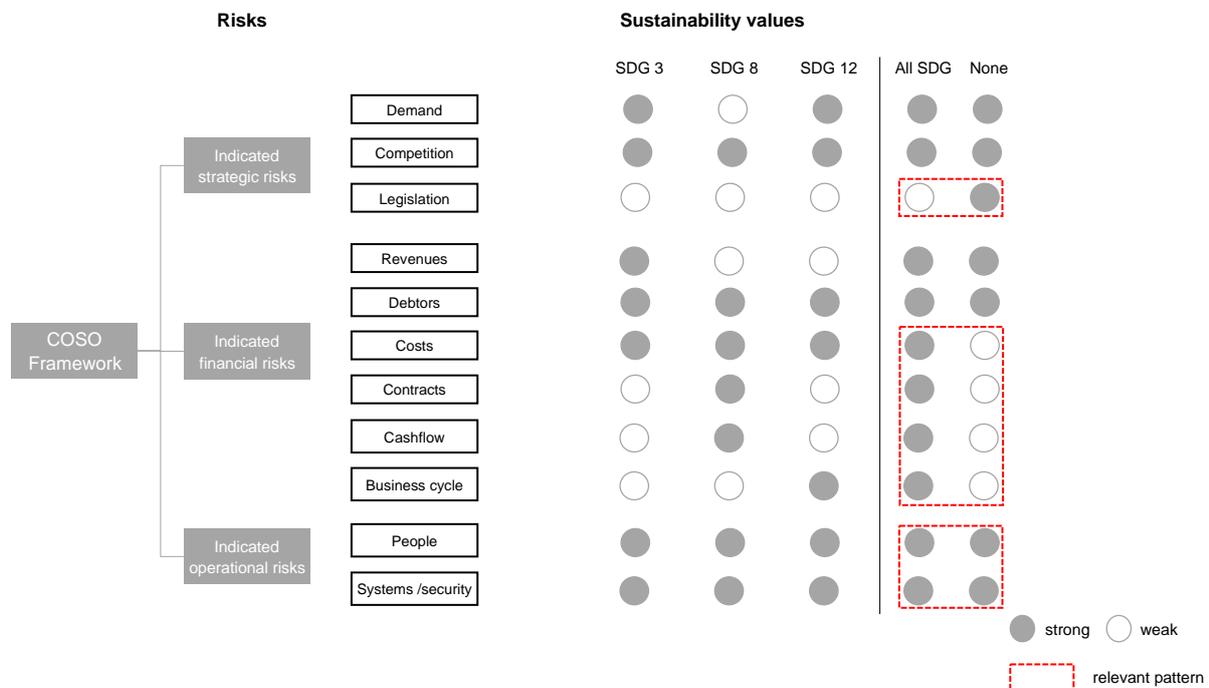
From the database, it was counted how often combinations of characteristics occur (sustainability goals vs. risks and sustainability strategy vs. risks). A database with fixed observation categories was used, and the risks were expressed as a percentage of occurrence if a sustainability goal or strategy was met.

4. FINDINGS

The carried out investigation has led to the following findings.

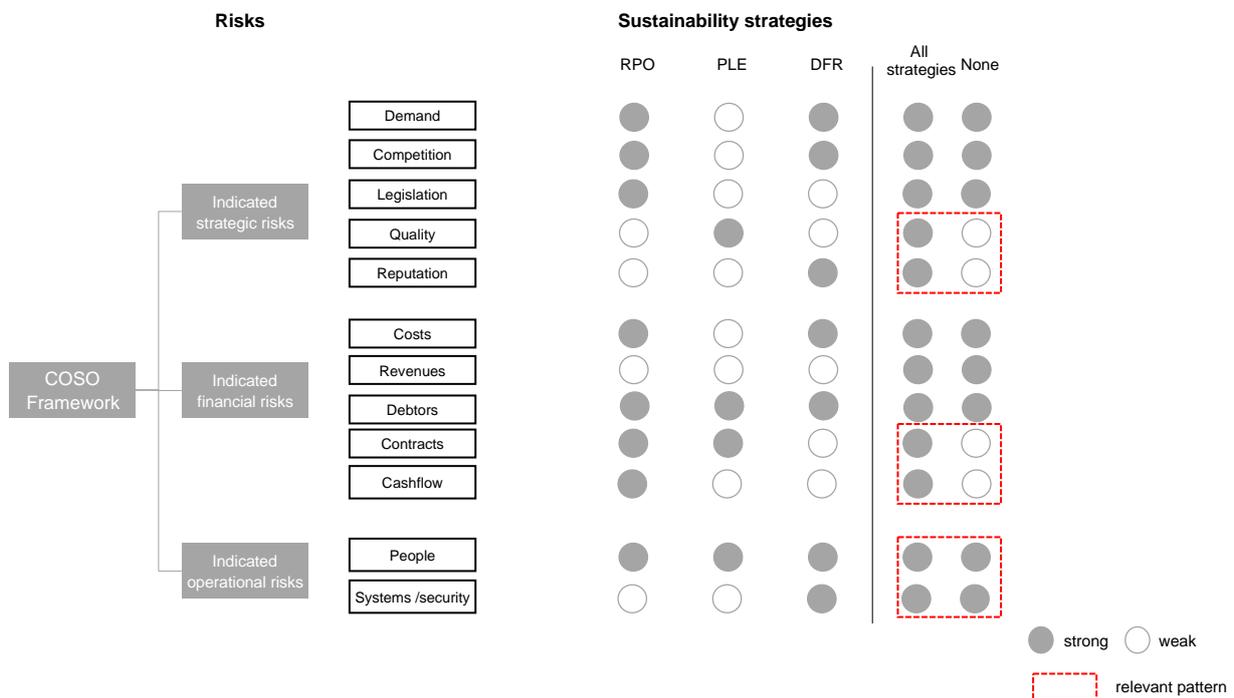
Part 1 of the study leads us to the findings as shown in Figure 2. For strategic risks, legislation is seen as a risk by organisations that do not pursue SDGs. Legislation is not a demonstrable strategic risk for organisations pursuing SDG 3, SDG 8 and/or SDG 12. Demand and Competition gave no difference. Regarding financial risks, Costs, Contracts, Cashflow and Business Cycle are seen as a risk by organisations that pursue SDG 3, SDG 8 and/or SDG 12. These are not significant risks for organisations that do not pursue SDGs. No difference in risks was found for the operational risks. People and systems/security are the risk for organisations, regardless of whether they are pursuing the sustainability goals. The first sub-question can thus be answered that the sustainable values lead to different risks at the strategic and financial levels, but not on an operational level. Operational risks were found, but did not change in case of a sustainable strategy.

Figure 2. Sustainable value risks



Part 2 of the research led to the findings as shown in Figure 3. For strategic risks, Quality and Reputation are considered a risk by organisations that pursue one of the sustainability strategies and not by organisations that do not have a sustainability strategy. For financial risks, Contracts and Cashflow are mentioned by organisations that pursue at least one of the sustainability strategies and not by organisations that do not have a sustainability strategy. For operational risks, no difference was found in risks. People and systems/security are a risk in both cases. The second sub-question can be answered in a similar way as the first research question: that apparently sustainable strategies lead to different risks at the strategic and financial levels, but not on an operational level.

Figure 3. Sustainable strategies



4. CONCLUSIONS

In the study it was researched when and how risks will be different once a company starts to develop a sustainable business approach. Apparently new strategic and financial risks appear, existing risks change, and some risks decrease. Operational risks appear, but show no differences between the different approaches.

The magnitude of the differences is relevant, but it was not part of this study. Besides this, the amount of 33 cases is limited to make a firm statement. It is, therefore, interesting to design a larger study to use these findings in a broader perspective. It is recommend to investigate the consequences of this case study in further research of a multiyear research program.

¹ In 2020 and 2021, students of the Finance & Control program at the Inholland University of Applied Sciences locations Alkmaar, Diemen, Haarlem and Rotterdam worked together in groups on this exam.

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CONFLICTS OF INTERESTS | The Authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT | Data available on request from the authors.

AUTHOR CONTRIBUTIONS | Authors have equally contributed to the content of the paper.

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ANNEX. RESEARCH DATA

Table A1. Data different SDG's

	Not sustainable	SDG 3	SDG 8	SDG 12
# companies	8	18	15	11
Strategic risks	24	53	44	32
Demand	5 21%	Competition 11 21%	Competition 8 18%	Demand 9 28%
Competition	4 17%	Demand 10 19%		Competition 5 16%
Legislation	4 17%			
Cut off	15%	15%	15%	15%
Financial risks	18	47	39	30
Revenues	4 22%	Costs 8 17%	Costs 7 18%	Costs 5 17%
Debtors	2 11%	Debtors 6 13%	Debtors 5 13%	Business cycle 4 13%
		Revenues 5 11%	Contracts 4 10%	Debtors 3 10%
			Cashflow 4 10%	
Cut off	7,5%	7,5%	7,5%	7,5%
Operational risks	23	47	40	30
People	10 43%	Systems/ security 19 40%	Systems/ security 16 40%	Systems/ security 9 30%
Systems/ security	6 26%	People 15 32%	People 14 35%	People 8 27%
Cut off	15%	15%	15%	15%

Note: The sustainability goals that are most often pursued by the 25 cases with sustainability goals are: SDG 3 Good health and well-being (18), SDG 8 Decent work and economic growth (15) and SDG 12 Responsible consumption and production (11). Therefore, the research focused on these SDG's and not on the other SDG's.

Table A2. Data different strategies

	Not sustainable	Retain product ownership (RPO)	Product life extension (PLE)	Design for recycling (DFR)
# companies	13	12	5	15
Strategic risks	38	35	14	44
Demand	9 24%	Demand 5 14%	Quality 2 14%	Competition 7 16%
Competition	8 21%	Competition 4 11%		Reputation 5 11%
Legislation	5 13%	Legislation 4 11%		Demand 5 11%
Cut off	10%	10%	10%	10%
Financial risks	34	27	12	38
Debtors	4 12%	Costs 5 19%	Contracts 3 25%	Costs 6 16%
Costs	4 12%	Debtors 3 11%	Debtors 2 17%	Debtors 4 11%
Revenues	4 12%	Contracts 3 11%		
		Cashflow 3 11%		
Cut off	10%	10%	10%	10%
Operational risks	32	33	14	42
People	5 16%	People 7 21%	People 3 21%	People 10 24%
Systems/ security	4 13%			Systems/ security 4 10%
Cut off	10%	10%	10%	10%