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Aligning business with Sustainable Development Goals: in search of an optimal business model

Abstract

The objective of this paper is to demonstrate the existence of a universal business model supporting the achievement of sustainable development goals, regardless of industry and company origin. This is a novel approach, since most authors concentrate on seeking purely innovative models or projects operating within a single industry. A hypothetico-deductive method of theory building was applied. First, the literature review was conducted to determine the nature of the proposed model, and second, the empirical research and the analysis of acquired material were performed using the association analysis method. It was proved that a universal business model supporting the achievement of sustainable development goals exists and has a relational nature. Its specific characteristics were presented, indicating the functioning of relational champions – companies that have implemented it most effectively.

Keywords: stakeholders, business models, sustainable development, relationship management
JEL Classification: M12, M14, M21, M50, M54

Introduction

Does an optimal business model exist? The one that, provided its proper implementation, would lead to the achievement of all corporate goals, including those associated with sustainability? What would its building blocks be? And finally, even if it potentially exists, would it not lose its leverage being exploited by those firms that invented it and later in general market context through the creativity diffusion [Barney, 2001; Schoemaker, 1990]?

Business models have been gathering their momentum in the academic and business press since the mid-1990s. Initially, this interest sparked as a knock-on effect of the early Internet era [Nielsen et al., 2018]. The rapid growth and adoption of new technologies have facilitated organizational transformations and were main drivers for the emergence of the literature that currently revolves around business model design, innovation, optimization and performance [Amit, Zott, 2020].

Over the years, the academic discourse on business models has remained vibrant but fragmented and very contextual. Authors sought for optimum in implementing innovative business models at a profit, but rather in the realm of specific industries, e.g. airline [Flouris, Walker, 2007], banking [DeYoung, 2005], biotechnological [Sabatier et al., 2010], newspaper and magazine [Fetscherin, Knolmayer, 2004]. There were also other analytical foci employed, e.g. firm types, such as start-ups [de Reuver et al., 2009] and SMEs [Bouwman et al., 2019], as well as single country perspectives [Bigliardi et al., 2005; Camison, Villar-López, 2010; Velu, 2017] or regional perspectives, e.g. developing markets [Dahan et al., 2010]. Finally, recent years have brought a plethora of papers dealing with detailed managerial challenges projected through the prism of business model innovation, e.g. overbooking models for car rental companies [Phumchusri et al., 2020], the selection of service levels in free-floating bike-sharing platforms [Yuxue Yang, Shuangliang Yao, 2022] or the selection of online location for small e-commerce businesses [Kim et al., 2018].

On the other hand, some general business model decision making frameworks have been developed. Probably the most eminent was and still is a business model generation tool operationalized by Osterwalder and Pigneur. Their Business Model Canvass [2010] consists of nine building blocks: customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities and cost structure, and is presented as "a shared language for describing, visualizing, assessing, and changing business models" [2010, p. 12]. Other authors were less successful in selling their proposals in the form of business consultancy frameworks. Instead, they decided to anchor their business model decision making tools to existing theoretical backbones, such as the Control Theory Approach applied for choosing the optimal strategy and business models applied by Johnson and Foss [2016].

As different as they may be in scope and purpose, all approaches in the mainstream business model literature have one in common: they focus mainly on the customer-company dyad and are predominantly aimed at optimizing the company profit. Referring back to questions

raised at the beginning of this paper, there is a need to further develop business model theory so that it does not only address the digitalization of value creation processes in more and more specific subdivisions of selected industries. However useful they may seem, the applicability of these models is mainly restricted to a small subgroup of firms [Porter, 1991]. They are, by nature, dealing with positivist or phenomenological descriptions what makes them too idiosyncratic to enable inductive enumeration and normative inference. On the other hand, general business model decision making frameworks, which pretend to be more universal, also largely ignore stakeholders other than customers and owners/shareholders of the company. This paper aims to fill this gap by approaching the company's business model with a broader multistakeholder lens to make businesses more accountable for the sustainable development of markets and societies.

The appropriate theoretical backbone for research on such a business model is the stakeholder theory [Bonnafous-Boucher, Pesqueux, 2005; Freeman, 2023]. Stakeholder theory stipulates that value creation is a collaborative effort in relationships, ideally benefiting the focal business and all its stakeholders [Freeman 2010]. Further on, it suggests that even if not all of company's stakeholders have direct influence on them (e.g. customers or distributors), managers cannot afford not to pay attention to perceptions of corporate practices and products in a broader society [Kletz, 2009]. The view that the economic rationale is not the only determinant in a market and that the company will actually increase its effectiveness if the interests of all stakeholders are represented in its business model, is prevalent in the sustainability-oriented business model literature [Bonnafous-Boucher, Pesqueux, 2005; Freudenreich et al., 2020]. This paper is positioned to contribute to this growing literature stream, however in a different way than most authors do.

The priority in sustainability-oriented business model research is given to the development of rather unconventional niche market solutions [Vernay et al., 2022]. Examples include sustainable business models oriented at the circular economy [Zhuang et al., 2023], green business models [Barber et al., 2012], low-income communities [Ghosh, Rajan, 2019] or social enterprises [Grassl, 2012]. Another prominent area of scholar interest is specific applications of sustainability projects in selected industries [Bocken et al., 2014], e.g. automotive industry [Wells, Seitz, 2005], banking industry [Filipovska, 2017] and food industry [Serhan, Yannou-Lebris, 2021]. Again, just as in the case of the general business model literature, these contributions may be very beneficial to selected audiences, but there is a risk that by concentrating on special cases, sustainable business models will fall short in changing the world, just as it was with the case of Corporate Social Responsibility (CSR). Truly incorporated in the genes of the company, CSR can be a powerful source of competitive advantage and benefit society over the long run [Porter, Kramer, 2006]. Nonetheless, CSR is disconnected from the core of the business too often and misused to sustain core features of corporate-led capitalism [Utting, Marques, 2010].

This paper takes a different perspective on sustainable business models. Instead of spending a lot of time and effort to mainstream sustainable business models as special cases [Vernay et al.,

2022], one should search for existing business model/s that is/are both: capable of delivering sustainable development goals and bringing profits, and within the reach of a wider range of organizations. This is a rather unconventional way of thinking contradictory to the mainstream thought: "there is clearly no one size fits all" [Hoare, 2020, p. 31]. Nevertheless, the aim of this paper is to develop a business model, based on the hypothetico-deductive (H-D) theory confirmation method [Doty, Glick, 1994], that is likely to be an optimal vehicle for supporting the shift to sustainability for any business. In turn, the hypothesis:
There exists a business model that supports achieving sustainable goals and can be universally applied, regardless of industry and country of origin.

The confirmation of this hypothesis would contribute to the development of Stakeholder Theory and the literature on sustainable business models. The innovative aspect of this approach is its emphasis on the identification of additional avenues for research into the expansion of sustainable business models, with a focus on devising universal models that are easier to implement.

Before presenting the actual model in section: Results and Discussion, key interrelated terms crucial to this discourse will be defined (section: Sustainable business models) and the concept of 'company optimum' (the optimal set of objectives including the scope of sustainable goals that every company ought to achieve) will be discussed (section: Optimal set of company goals). Further on, basic premises for a multi-stakeholder business model will be presented (Section: Universal business model supporting sustainability), as well as the methodology of empirical research will be explained (Section: Materials and methods). Concluding remarks will be given in the last section.

Sustainable business models

A business model reflects the company's underlying logic and its strategic choices for creating, offering, delivering and capturing value [Boons, Lüdeke-Freund, 2013; Shafer et al., 2005]. It explains how a firm interacts with its customers, suppliers and other important partners [Zott, Amit, 2010]. It defines core resources and capabilities required for its execution [Teece, 2010] and indicates paths for the commercialization of products and services [Chesbrough, Rosenbloom, 2002].

There are three fundamental dimensions of a business model: value proposition, value chain and revenue model [Vernay et al., 2022, p. 419]. The value proposition entails understanding both the conscious and subconscious needs of customers and translating this understanding into concrete offers aimed at solving customers' problems and helping them in mastering their tasks at work and in their private lives [Osterwalder et al., 2015]. The basic characteristics of a value proposition span between price and quality. The value chain refers to all activities performed in human and non-human systems to deliver value to users. Examples include primary activities (e.g. logistics, operations, marketing, sales and service) and supporting

activities (e.g. human resource management, technology development, procurement [Porter, 1991]. The revenue model refers to how a firm couples the customer value creation process with its own and how it adjusts pricing strategies to ensure undisrupted cash flow (e.g., ownership, subscription or pay-per-use [Ng, 2010]. Hence, the business model should be detailed enough to inspire concrete actions and flexible enough to adjust to changing business conditions [Deszczyński, 2021].

Sustainable business models extend the scope of value creation to a wide range of stakeholders, while preserving viable social and ecological systems [Evans et al., 2017]. The term 'sustainability' has been traditionally associated with natural environment issues. Hence, in the sustainable business model literature, there are numerous references to issues such as environmental continuity (e.g., material and energy efficiency, renewables and circular economy), sufficiency (moderating economic activity by fighting off mindless consumption and consumerism) and long-range planning (optimizing temporal trade-offs to minimize long-term negative externalities [Bocken et al., 2014; Freeman, 2010; Freudenreich et al., 2020; Norris, 2024; Norris et al., 2021]. However, a successful sustainable company is expected not only to respect the natural environment while remaining profitable, but also to create social value for multiple stakeholders [Dembek et al., 2023].

The notion of the Tripple Bottom Line (planet, people and profit) [Elkington, 1998] is one of the earliest attempts to operationalize how a sustainable business model should work [Lüdeke-Freund et al., 2020]. The current sustainability agenda is vastly shaped by its later development in the form of *The 2030 Agenda for Sustainable Development*, adopted by all United Nations Member States in 2015 [United Nations, 2015]. Seventeen Sustainable Development Goals (SDGs) lay at the heart of this project, which recognize pain areas in the current world from poverty and inequality to economic growth and global environmental challenges. Indeed, SDGs constitute a fundamental framework for a new global economy. Hence, they are frequently a central reference point in sustainable business models literature [Ghosh, Rajan, 2019; Norris et al., 2021; Rendtorff, 2019; Rosati et al., 2023]. However, SDGs can only be partially addressed by business. For example, companies cannot be accounted for reaching SDG 2 (Zero hunger) or SDG 4 (Quality education) as these issues have to be tackled by political goals (Norris, 2024). There are also SDGs, which can be meaningfully addressed only by organizations representing specialized industries, e.g., SDG 7 (Affordable and clean energy), SDG 14 (Life below water) and SDG 15 (Life on land). It follows logically that the aim of this paper (to decvlop a universal business model that incorporates sustainability as its immanent building element, regardless of industry and country of origin) cannot be reached by incorporating all SDGs to its agenda. The adequate reasoning would be to nominate the areas of responsibility that each company should achieve. They are basically related to the range of stakeholders that a typical company maintains with [Norris, 2024].

Optimal cluster of company goals

The most common answer to the question: What is the ultimate reason for the existence of a company? is: to make money and profit. Even though this approach fits into the generally accepted canon of economic knowledge, it seems too simplistic, not just in the light of sustainable development, but also in the historical context of corporatism. From an ontological perspective, it should be said that if a company existed only for profit, its existence would be rather parasitic. Such a narrow understanding of what a company is or should be, would lead to the justification of all its activities, including unethical and illegal ones, as long as they bring a benefit that can be monetized, preferably in the short term [Handy, 2002]. Take it or leave it – this is how entities and individuals left in a vacuum behave, free from laws, principles of social coexistence, business ethics and morality.

The original justification for the existence of an enterprise should be sought in its ability to provide useful value attractive to sufficiently large social groups that are willing to support its existence in return. Consumers are the first among them, as they directly finance the company in exchange for goods and services that meet their needs. It is significant that in the early 18th century, American corporations were established to achieve only a clearly defined goal, e.g. building a bridge. This was precisely stated in the founding act submitted to state authorities. The servile nature of the corporation was evident to such an extent that as soon as its purpose was achieved, such an organization was dissolved [Davis, 2016]. Only with the passage of time, permanent corporations began to appear, which enabled their gradual professionalization. However, it was probably then that the focus shifted from customer needs to the survival of the organization itself. Therefore, profit today largely functions as an end in itself rather than as a measure of success in meeting consumer needs.

Among the UN SDGs, SDG 12 (Ensure sustainable production and consumption) deals directly with consumer-company relations. In this context, a business model that supports sustainability should prioritize building closer relationships with customers. Only knowing customers well will allow to educate them about the impact of their choices on community and society, reduce mindless consumption and make sure that no customer makes a mistake or overlooks some benefits [Peppers, Rogers, 2013; Sheth, 2017]. Changing the role from seller to advisor also helps to refrain from an immediate transaction for the sake of future gains, when the right moment comes to create more value for the customer. Pushing consumers to buy only for internal reasons (e.g. to get rid of inventory or to get a quarter bonus) is a landmark of corporate temporal myopia [Miller, 2002] and economic short-termism (a short-term transactional approach to business) [Laverty, 1996], which obscure hubris and greed [Haynes et al., 2015].

Another group of stakeholders directly affected by the company are its employees. In organizations focused only on generating profit, there is a naive assumption that an employee is homo economicus and that human resource management involves a mechanistic control

of financial incentives, such as applying voltage to an electric plate [Urbina, Ruiz-Villaverde, 2019]. This is despite countless studies showing that pay motivation is more of a hygiene factor [Damij et al., 2015; Gawel, 2019; Sanjeev, Surya, 2016]. In the absence of higher-level motivators, e.g. related to work culture, it is impossible to ensure long-term high employee commitment and attention to the quality of tasks performed, even when "no one is watching" [Herzberg, 2005; Taormina, Gao, 2013]. Employees treated only as replaceable cogs in a clock mechanism that wear out from time to time, will treat their employers in the same "transactional" way. Since both parties are connected only by the "working time vs. wage" relation, a logically thinking employee will improve his or her balance of such a transaction either by limiting the effective working time (if it is recorded – simply by working less while in the office) or (especially in the case of remuneration dependent on sales) by taking actions aimed at short-term effect that burden his or her employer in the long run (risky transactions, abuse of customer trust) [Deszczyński, 2011]. As Vineet Nayar, the legendary head of HCL Technologies, noted, it is puzzling that the same people who, as believers, devote their time to visiting churches and leave their money as a donation or offering, are so reluctant to visit workplaces where their time spent is paid for. Would it not be better if employees believed that their work had any meaning beyond earning (often insufficient) money [Nayar, 2010]?

The impact of enterprises on employees also has a social dimension. After all, they create groups whose learned and recreated behaviors, willingness to cooperate, or even the level of nervousness and general state of physical and mental health, affect the ability of larger communities to live together harmoniously. In this respect, there are several UN SDGs that every company ought to support. SDG 8 (Decent work and economic growth) is the most obvious among them. However, SDG 3 (Good health and well-being) and SDG 5 (Gender equality) are affected by the work environment and culture as well. Meanwhile, in the United States alone, it is estimated that many of today's toxic business practices that ignore employee well-being result in 120,000 unnecessary deaths each year and cost the American economy more than $300 billion [Pfeffer, 2018]. In turn, company losses due to the perpetuation of the "culture of disengagement" are estimated at over $605 billion [Kelleher, 2020].

Without a doubt, a universal business model supporting sustainability should incorporate employee well-being in its set of goals. Beyond obvious connections to physical and mental health and decent pay, taking care of employees is also related to the customer service and sustainable consumption. Only empowered employees can act as partners who empathetically help customers in the application of resources provided by their company, making such a relationship truly beneficial and contributing to a positive encounter [Delpechitre et al., 2018; Grönroos, 2011].

A partnership between employees and customers can be extended to fair behavior to all company's stakeholders. In traditional economic discourse, it means assessing the impact of negative aspects of business activities (externalities) on society and intervening on the state or international level to bring polluters to compensate for the losses they have caused and to encourage them to change [Baumol, 1968; Simpson, 1996]. However, in the context of

sustainability and business models, this matter is subtler and more multifaceted. It is about being a good neighbor [Lewis, Henkels, 1996; Silverstein, 2016], which can be interpreted as a contribution to SDG 11 (Sustainable cities and communities). This surely translates into attentive listening to the voice of external stakeholders, being open to a dialogue and ready to act.

Airbnb, which allows apartment owners to obtain additional funds from short-term rentals during the holiday season, began operating with the aura of almost social enterprise and soon became a star of sharing-economy [Roma et al., 2019]. However, the popularity of short-term rentals has led to a significant increase in rents and a deterioration of living conditions for the less well-off, permanent residents of cities such as Barcelona. Administrative regulations soon appeared to change this situation [O'Sullivan, 2021]. However, they led to an increase in the prices of accommodation in hotels, on the one hand, and deprived families who owned only one place and played the authentic role of hosts in it of additional income. Ultimately, a compromise solution was reached with the participation of Airbnb and other stakeholders [Bei, Celata, 2023]. This led to some self-limitation of Airbnb, but it maintained the ability to operate in the market and protected its identity as a company connecting guests and hosts, who not only offer accommodation, but also reveal to their guests the authentic life of local communities.

Universal business model supporting sustainability

The previous section discussed the areas of responsibility that should be assigned to all companies in the field of sustainable stakeholder needs management, regardless of the industry, size, and country of origin. In turn, the envisaged universal business model supporting sustainability should create value not only for company's owners/shareholders, but also for other directly related stakeholders (e.g., employees, suppliers, distributors) and indirect stakeholders (local communities). This means that serving society would constitute its core foundation. However, the challenge is how to relate SDGs to the business reality and how to overcome the traditional profit oriented business concept in a market where sustainability is used as a catchword to drive sales [Rendtorff, 2019]. Understanding sustainability not as a special case, an add on, but as an irrevocable element of the business model requires integrating sustainability into the stakeholder value creation process. Only then can a company count on reciprocal support to sustain its existence [Harrison, Wicks, 2013; Norris, 2024].

The value created by a business model always has to reflect stakeholders' professional or personal needs. If stakeholders appreciate the sustainability reflected in products, services, working ambience or reputation, value creation processes will reflect this [Freudenreich et al., 2020]. This is exactly why sustainability has to be tightly linked to ethics and morality to get momentum [van Bommel et al., 2023]. This is even not primarily about the moral convictions of customers who see value in sustainability. In fact, they can be deceived and lured by the convenience of offers wrapped in slogans deprived of sustainability value due to green- or

social-washing. However, if sustainability is a priority for company owners and CEOs because of their personal moral reasons, these ideas will shine on the employees and will be strongly reflected in both the company's business model and value proposition.

Certainly, there are material or factual elements of value that companies generate. Nonetheless, stakeholders also determine their perception of value by intangible effects, such as trust and commitment, which directly reflect the quality of their relationship with the company [Norris et al., 2021]. Hence, for stakeholder management, value creation is relational [Rendtorff, 2017]. Relationships, unlike transactions, are not about a cold exchange, but they are based on mutuality and partnership, human values, caring and love [Freeman, 2010]. Thus, value creation for sustainability is based on stable relations over time [Rendtorff, 2019]. Therefore, the universal business model supporting sustainability ought to be also relational.

Value creation in a relational business model is a dialogical process [Kumar et al., 2018]. It involves the exchange of information, which –over time is structured into knowledge. This, in turn, enables building unique combinations of value, as diverse as its customers, employees, business partners, communities in which they operate, and other partners [Deszczyński, Beręsewicz, 2021]. The big advantage of such a model is that it does not require huge expenditures on technological development, because the value creation process benefits from a network of connections that enable synergistic use of existing resources and skills [Sepulveda, Gabrielsson, 2013]. To easily visualize this type of advantage, one can recall his or her last visit to a hairdressing salon. Each hairdresser has a pair of scissors and a comb. Most of them also have comparable skills. So what makes your favorite hairdresser stand out? The process of co-creating value with clients, supported by knowledge of their preferences and personal lives. The effect is not only a hairstyle tailored to the face oval, but also relaxing socialization and learning about the client's preferences for the next visit.

Undoubtedly, not every stakeholder value creation process is so natural and simple. In larger organizations, it is necessary to ensure that the overall customer experience is similar to the one when meeting a hairdresser who is genuinely interested in their affairs. Hence, in the relational business model supporting sustainability, partnerships with external stakeholders precede partnerships with employees. To paraphrase Vineet Nayar's famous statement: "Employees first, external partners second"[1] [Nayar, 2010]. The basic test of the organization's commitment to sustainability is the way it fulfills its obligations to employees. Taking the conclusions drawn from the previous considerations about the false image of employees as homo economicus into account, this requires the creation of an ethical organization that offers them a work environment that motivates communication, cooperation, development and commitment. It can be argued that the ability to be a valuable partner to employees and, through their assistance, to customers, inherently encourages the adoption of a similar attitude toward other stakeholders [Eveland et al., 2018]. There is even no need for institutionalized CSR programs, although if they are not created for show, they can help to professionalize

[1] The original quote: "Employees first, customers second".

activities supporting the local community and effectively allocate funds for charitable purposes [Hwang, Kandampully, 2015]. Nonetheless, being fair does not require special programs, but rather heart and will.

The readiness to listen and co-create a positive social and business reality on a win-win basis is a special feature of relational champions – companies that truly relive and reinterpret stakeholder management principles every day. And there is one more. These companies are extremely profitable and have a very stable competitive position. At least these are the conclusions drawn from the explorative research presented in the following sections.

Materials and methods

The sample used in this research consisted of more than 600 companies, stratified by their primary industry. The sampling frame encompassed the entire population of registered companies in Poland, approximately 3.5 million entities. Primary data collection was conducted through Computer Assisted Telephone Interviews (CATI) administered by an external provider. The response rate for this survey was equal to 13.1%.

Interviewees were company owners or managers of sales, marketing and HR departments. Respondents answered 40 questions describing various approaches and activities of their companies in the field of relationship management, 9 questions defining the company's short and long term competitive position, and 17 questions concerning the industry, market positioning and internal structure of their companies (Appendix 1). Such a large number of questions resulted from the desire for a comprehensive review of enterprise activities aimed at building relationships. Questions were formulated in such a way as to vividly present the described reality to respondents and to direct them to choose the option "I don't know" rather than to answer randomly, what happens when questions are too general.

Respondents were asked to assess to what extent the statements provided in the questionnaire matched the reality of their organization on a scale of 0–10. A score of '10' indicated that the description provided matched the situation in the firm perfectly, while a score of '1' indicated the opposite. Remaining scores represented varying degrees of in-between situations. Additionally, a score of "0" could be utilized if the respondent lacked knowledge in a specific field [McDaniel, Gates, 2015].

The ten-point scale, with its clearly delineated extremes, appears to have a greater ability to distinguish between crucial and peripheral descriptions of successful relationship management compared to the commonly used five-point Likert scale. Furthermore, its explanatory power and nomological validity are higher than that of the Likert scale [Coelho, Esteves, 2007].

An associated concern was determining what score levels could be considered indicative of successful relational practices. Generally, when research questionnaires feature positive statements, respondents' answers may serve their psychological interests (such as self-esteem and cognitive consistency) rather than accurately reflect objective facts. These "positive

illusions" could introduce significant common method bias [Martins, Kambil, 1999; Podsakoff et al., 2003]. Consequently, only statements rated 9 or 10 in each case were considered eligible to signify successful relationship management. This decision was based on the belief that these highest ratings (linked with easily understandable 90–100% levels) are less likely to be biased, as they distinctly represent the ideal situation outlined in the question. Scores of 7–8 still leave plenty of room for respondents whose performance is average or poor, but who wish to perceive themselves positively.

Due to the exploratory nature of this study, a machine learning technique, specifically basket analysis/association rules mining, was employed instead of the typical SEM-based inference. Basket analysis aims to uncover non-trivial patterns within respondents' answers, defined as: $A \Rightarrow B$, where $A, B \in I$ and $A \cap B = \varnothing$.

The subset of items A is termed the antecedent (left-hand-side – LHS), while the subset of items B is referred to as the consequent (right-hand-side – RHS). The symbol $\Rightarrow$ denotes the rule connecting the item sets. The basic idea of the basket analysis/association rule mining is following:

Let $I = \{i1, i2, \ldots, ik\}$ be a set of k-binary attributes called items, where k denotes the number of attributes.

In a set of transactions (answers to questions), each transaction contains a subset of I, marked by an individual respondent's identifier.

Let $Tj = \{t1, t2, \ldots, tn\}$, where $Tj \in = I$ be a set of transactions, where n denotes the number of respondents.

In the data set consisting of k items there are $k2$ possible combinations of rules that the analyst might consider. However, in order to reduce the number of rules, following measures are used: support, confidence, lift.

Support denotes probability of observing A and B in the dataset:

$$n(A \cap B)\ n = P(A \cap B)$$

where $n(A \cap B)$ denotes the number of observations with a given intersection of item sets, and n denotes the total number of observations.

Confidence denotes conditional probability of observing B under A that may be to detect which items are selected when a given item was selected in the first place:

$$n(A \cap B)\ n\ (A) = P(B|A)$$

Lift denotes the increase of probability of selecting B if A was selected:

$$confidence\ P(B) = P(B|A)\ P(B)$$

The impact of notation measures is as follows: For example, setting the support to 0.5 means that only rules occurring in at least 50% of all transactions will be shown, while setting the threshold to 1 will filter only those rules that increase the probability of selecting the consequent.

Using sophisticated mathematical algorithms, this approach offers simplicity and conciseness in data presentation without compromising empirical adequacy [Hruschka, 2019]. Unlike SEM, which requires the construction of a pre-defined statistical model, the method adopted enabled the avoidance of biasing the results with a predetermined aggregated view of what successful relationship management is.

The original domain in which basket analysis or association rule mining was applied pertained to studies on customer purchasing patterns, hence the term "basket analysis." However, this method is also valuable for analyzing complex phenomena such as multilevel macro-processes (e.g., organizational strategy) and micro-processes (e.g., organizational behavior) [Aguinis et al., 2013; Aumann, Lindell, 2003].

Results and discussion

The analysis of the research results consisted of two steps: dividing companies into four groups based on the criterion of their competitive advantage and reviewing acquired association rules/mining rules within all groups of companies.

The premise of the research is that the competitiveness extends beyond current outcomes to encompass their sustainability. Therefore, questions used to assess the performance included both short-term financial and market measures of competitiveness, as well as some long-term measures focused on customer and employee value [Mauboussin, 2012]. Short-term performance indicators describe temporary financial or market successes. These are necessary but insufficient conditions to label a company as having a sustainable competitive advantage. In contrast, long-term indicators reflect the lasting benefits of enduring relationships [Schertzer et al., 2013]. Both types of indicators are provided in Table 1.

Table 1. Short-term and long-term business performance indicators

Short-term indicators
The company has been steadily increasing sales or market share.
The company has been steadily hiring more employees,
The company has been steadily outcompeting the other firms in terms of revenues,
The company has taken over some of its competitors.
Long-term indicators
The company has been steadily outcompeting the other firms in terms of customer satisfaction.
The company has been steadily growing its loyal customer base.
The company has been a sought-after employer.

Source: own elaboration.

The research distinguishes between market leaders (top-performing firms) and the remaining group of companies. To qualify as a market leader, companies had to report all short-term

and all but one long-term advantages. This category comprises 4% of the entire population. Companies with relatively strong competitive advantages (15% of the population) are those that reported at least two short-term and two long-term advantages. The third group of companies (13% of the population) reported three advantages, including no more than one long-term advantage. Finally, the least-performing group consists of companies reporting no more than two short-term competitive advantages (68% of the population).

The basket analysis identified 16 rules based on 10 items, which are presented in Table 2. For the purpose of the study, "Support" was set at 50%, and "Lift" was set above 1. It is worth noting that generally, it was only among top-performing companies that the association rule analysis based on ratings of 9 and 10 yielded any results.

Table 2. Summary of the association rules for the top performing companies.

Rule	LHS	Imply	RHS	Support	Confidence	Lift
1	a06	⇒	a05	0.52	1.00	1.28
2	c01	⇒	c03	0.52	1.00	1.53
3	c01	⇒	c08	0.52	1.00	1.53
4	a02	⇒	d05	0.52	0.92	1.42
5	a02	⇒	c03	0.52	0.92	1.42
6	a04	⇒	c08	0.52	0.92	1.42
7	c03	⇒	c08	0.61	0.93	1.43
8	c08	⇒	c03	0.61	0.93	1.43
9	c01, c03	⇒	c08	0.52	1.00	1.53
10	c01, c08	⇒	c03	0.52	1.00	1.53
11	c03, d03	⇒	c08	0.52	1.00	1.53
12	c08, d03	⇒	c03	0.52	1.00	1.53
13	c03, d05	⇒	c08	0.52	0.92	1.42
14	c08, d05	⇒	c03	0.52	1.00	1.53
15	c03, d08	⇒	c08	0.52	1.00	1.53
16	c08, d08	⇒	c03	0.52	0.92	1.42

Source: own elaboration.

The only exception was a rule identified in the group of companies with a relatively strong advantage, which is identical to the rule R2 reported for the top-performing companies. This observation directly validates the R2 rule and indirectly lends credence to the remaining results based on the group of top-performing companies. These rules do not seem to be randomly generated but indicate some non-linear regularity (a concentration of answers at the extreme high end of the scale among top-performing companies, accompanied by relatively high, though not extremely high, results identified in the second-best group of companies, and moderately high results in the two remaining groups).

Table 3 contains relational characteristics identified in the research procedure, which constitute the content of the relationships described in Table 2. Codes in the first column

relate to LHS/RHS items in table 2. The order of appearance of relational characteristics is oriented on the number of rules they are a part of. As it turns out, the group of top-performing companies also happens to be relational champions, who have built their advantage based on relationships with employees and customers, as well as a network of collaborating enterprises, while remaining valuable entities in their communities. Thus, the relational business model combines the requirements of playing a supportive role in the community, at least in terms of SDGs, which can be achieved by any individual business in any industry, with the highest business efficiency. The relationship between the degree of stakeholder relationship orientation and the possession of a sustainable competitive advantage was evident throughout the entire surveyed population. The lower the focus on relationships, the poorer the results, regardless of the size of the company, industry, or area of operation.

Therefore, as it turns out, ethically-driven attitudes of a company's top management are the relational factors that underlie the source of its competitive advantage. These attitudes influence how line managers and other employees behave, how value creation processes involving customers and business partners look, and how the company defines its responsibility to the broader environment in which it operates. This is a recipe for business success that is both simple and challenging. Simple because it is based on relational capital that cannot be patented, and that anyone can start to build. Challenging because it requires – especially from the company's leadership – humility and a willingness for constant development of their own humanity in making ethical choices. Certainly, the relational business model is not the dominant way of managing, yet it clearly indicates what the future should look like while remaining firmly grounded in the realities of doing business. In this context, it should be considered as an optimal universal business model supporting sustainability, which combines the ideals of the Triple Bottom Line and SDGs.

Table 3. Characteristics distinguishing the relational business model

code	Relational characteristic (LHS / RHS)
c03	The company actively promotes and appreciates values and attitudes, such as: – sincere interest in customer needs, – openness to collaboration within the company and with external partners, – respect for every person, – care for corporate property, – openness to challenges and risk-taking, as well as the readiness to learn from mistakes.
c08	The sympathetic and open working ambience creates a corporate environment where professional subordination and belonging to different departments do not interfere good communication and cooperation among employees.
c01	Professional skills, taking care of customers and employees, as well as the ethical behavior of the company leadership is the benchmark for all employees.
d05	Means of direct communication are the main communication tools. The communication matches precisely: – meaningful content (tailored to customer needs), – communication channels, – exact time (incorporating the individual product/service use cycle).
a02	Ethical behavior is part of a corporate strategy, including fairness to business partners as well as an active commitment to the well-being of a local community, the natural environment and a contribution to people in need.

code	Relational characteristic (LHS / RHS)
d03	The company is confident that: – every customer looking for information about the offer is serviced immediately, – contacts are registered and processed to salespersons, – the sales conversion to customers is constantly monitored.
d08	Customer feedback (for example, complaints, requests): – is discussed by the employees concerned and their supervisors one week after the event occurs, – analysis is included in the employee assessment system.
a04	The company manages relationships with business partners other than customers (suppliers, distributors, etc.) and can, in turn, assess, for example: – the quantitative scale of cooperation: the interdependence between quantitative plans, for example, manufacturing or sales plans and particular partners; –the quality of cooperation: the influence of a particular partner for the exact timing of planned operations, manufacturing quality control, customer service, and so forth; – cooperation perspectives: the importance of a particular partner for product innovation, sales growth, and so forth.
a05	The company knows its best customers and tailors its offer to their individual preferences (products, services, forms of cooperation), and if relationship economics allow this, it provides additional benefits (for example, servicing priority, personal advisors, earlier access to products, exclusive amenities).
a06	Based on registered information (for example, offers sent, previous purchases, purchases at competitors), the company differentiates its offer to every direct customer.

Source: own elaboration.

Summary

The mainstream literature on sustainability business models focuses on case studies of companies testing entirely new business models, understood as innovative applications of technology combined with the search for new market niches targeting educated customers committed to one of the core sustainability ideas (circular economy, green business models, low-income communities, social enterprises) [Barber et al., 2012; Ghosh, Rajan, 2019; Grassl, 2012; Zhuang et al., 2023].

Another dominant approach involves reporting sustainability projects carried out in selected industries or by individual companies [Bocken et al., 2014; Filipovska, 2017; Serhan, Yannou-Lebris, 2021; Wells, Seitz, 2005]. In both cases, the scope of applicability of such business models is limited and burdened with the risk of stigmatizing sustainability as a special case, making it difficult to proliferate against the dominant industry logic [Vernay et al., 2022]. A particular challenge here is also to demonstrate the sources of stakeholder value, which are crucial for their continued mutual support of the business model [Harrison, Wicks, 2013].

Meanwhile, the aim of this article was to present a universal business model that would support sustainability regardless of the particularities prevailing in a given industry or region. It was hypothesized that such a model exists, and based on the literature analysis, it was found that the profile of such a business model is most likely relational. Subsequently, according to the principles of the hypothetico-deductive (H-D) theory confirmation method, theoretical assumptions regarding such a model were validated through a qualitative empirical research

[Doty, Glick, 1994]. In this way, the profile of a relationally oriented company – a relational champion – was created based on a few, but nevertheless existing organizations.

According to the H-D logic, if empirical data support theoretical generalizations represented by the ideal type reflected in its associated profiles, the underlying theory can also be credited and qualified as valid [Ketokivi, Mantere, 2010]. Therefore, the adopted hypothesis stating the existence of a universal business model supporting sustainability was positively verified. This contributes to the development of Stakeholder Theory and the literature on sustainable business models. The novelty of this approach lies in highlighting complementary avenues for research on the diffusion of sustainable business models aimed at seeking universal (thus easier to implement) models. Further development of this research direction may involve, on the one hand, expanding the research sample to other countries and cultures (which is an obvious limitation of this study), and on the other hand, seeking factors and circumstances that hinder or facilitate the implementation of this business model. These efforts may contribute to faster momentum in achieving sustainability goals, especially SDGs 3, 5, 8, 11, 12. This may happen because the relational business model, if implemented correctly, brings both: the achievement of sustainability goals and excellent financial results. What contributes to the theory development is therefore also beneficial for managers, who receive clear guidance on how a company, regardless of industry specifics, can simultaneously become an economic champion, a good neighbor, and a good citizen of the world. After all, creating a better company does not cost more than creating a worse one, and at the same time, a better company contributes to making the world a better place to live [Reichheld, Markey, 2011].

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