

Sustainable Business Model Practices Maturity Model in the Construction Industry

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Abstract

An increasing number of construction companies are adopting sustainable practices thus transforming their business models. The present paper proposes a hypothetical maturity model of sustainable practices to be evaluated in future research. Furthermore, we propose a distancing from the traditional understanding of organizational dynamics in Business Model literature and adopt a Strategy-as-Practice theoretical lens viewing practices in construction projects as central activities for Sustainable Business Modelling and not just providing the context for the implementation of Business Models. By looking at ten years of annual and sustainability report from a large construction company we identify Sustainable Business Model Practices coming from two types of interacting activities: Sustainability Projects and Construction Projects. Moreover, we identify an evolving maturity in those activities facing different challenges thus driving different actions over time motivating a four stages maturity models in three areas: the Sustainability Projects, the Construction Projects, and the interaction between the two.

Introduction

Due to societal and institutional pressure many companies investigate sustainability management and, while sustainability issues used to be pursued more coincidentally than with a clear strategy (Baumgartner, 2010), today many managers understand the significance of the strategic approach of corporate sustainability. However, they face difficulties in aligning sustainable development and strategic management as well as to implement it in practice (Kitsios, 2020). Organizations realize the limits of purely profit-orientated business models and identify the potential of sustainability-oriented business models (Breuer, 2018) thus, aim at designing, developing, implementing, and managing Sustainable Business Models (SBM).

There have been several attempts to describe the nature of an SBM, such as, Bocken (2014) who proposes 8 SBM archetypes established on the concepts of value creation, delivery, and capture to inspire practitioners to develop similar models. Other research has focused on the design or development of SBM. Breuer (2018) provides 4 'guiding principles' to design SBM and Baumgartner (2017) introduces strategic management into the discussion of corporate sustainability to clarify various aspects related to corporate sustainability management to enable companies to create business and societal value through their sustainability-related activities (Baumgartner, 2017). Recently Lüdeke-Freund (2021) encourages future research to look further into the assessment and management of SBM. Indeed, SBM development needs

to be facilitated in a way that allows for managing the divergence between planned and realized SBMs, while keeping up their sustainability potential (Breuer, 2018).

The purpose of this paper is to answer Lüdeke-Freund's (2021) call and propose a maturity assessment model for SBM practices supported by observations in the construction industry.

Methodological Approach

Theoretical Understanding of Sustainable Business Model Implementation

SBM implementation is often described as a process that is prone to unintended consequences (Lüdeke-Freund, 2021, Baumgartner, 2017, Breuer, 2018). The term "unintended consequences," implicitly assumes that outcomes should conform to the intended strategy—and, if they do not, that the implementation process is where strategy is diverted (Weiser, 2020). We believe that this understanding is due to the rooting of SBM in traditional strategy literature aiming at establishing optimal structures, systems, and processes for SBM implementation and on how to control progress which tends to overlook the behavioral and social dynamics associated with adaptive organizational behavior (Weiser, 2020).

We believe that an improved understanding of SBM implementation requires a distancing from this traditional understanding of strategy and organizational dynamics. Thus, we wish to use the Strategy-as-Practice (SaP) (Jarzabkowski, 2007) theoretical lens. As emphasized by both Spieth (2016) and Foss (2017) the development of the Business Model research field could benefit from more empirical research exploring the organizational processes, structures, and interdependencies of business model innovation during a change process (Kringelum, 2017), to understand enactment practices of sustainable business models.

Strategy-as-Practice considers strategizing, or strategy as something done, as being at the nexus of three elements: Praxis, Practice and Practitioners. Praxis, for SaP scholars, is the interconnection between the action of individuals or organizations and their effect on the institution in which they act (Jarzabkowski, 2007). Practices are "*the routinized types of behaviour which consist of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge*" (Jarzabkowski, 2007). Finally, Practitioners are the individuals who "*draw upon practices to act*" (Jarzabkowski, 2007). Practitioners are the actors, practices the tools and praxis the transformative actions.

This means that we do not consider that Business Models, similar to a strategy, exist in an organization rather it is something created through every day talk and actions, thus adopting a subjectivist ontological stance as Business Models has no real, independent, status separate from the act of knowing (Duberley, 2012). We draw on the definition by Doz and Kosonen (2010) for whom business models function as a subjective representation of structured and interdependent operational relationships between a firm and its customers, suppliers, complementors, partners and other stakeholders, and among its internal units and departments (functions, staff, operating units, etc.), delineating how managers believes the firm relates to its environment. The business model can be considered a dominant logic, a current thinking pattern or established belief or cognitive schema held by managers in organizations (Bettis, 1995 in Massa, 2017). According to this understanding strategizing and business modelling are two very similar way to describe the interconnection between the

action of individuals or organizations and their effect on the institution in which they act. However, Business Models offers a framework of understanding, even if it is a virtual representation, of activities/value/network/competencies by managers or the researcher. It allows the manager or researcher to study and compare situated practices across the organization and time.

With this theoretical lens, the enactment of SBMs, is understood as the pattern of SBM implementation brought into being within people's actions over time (Jarzabkowski, 2019). Enacting SBM thus involves both the actions of multiple diverse actors and their interactions in making sense of and adjusting a given SBM to their own contexts (Weiser, 2020). Those mutations in practices or routines (Bertels, 2016; Stiles, 2015) can represent important adjustments to initially conceptualized SBM and SBM implementation plans. Moreover, we place the interplay between SBM conceptualization and enactment at the heart of SBM implementation rather than evaluating the quality of implementation based on the extent to which SBM have been "appropriately" implemented according to a pre-determined plan. Thus, SBM enactment is not only about studying deviation or adaption from intended plan but about the local practitioners, their actions, and the impact it has on the different categories of SBM. In this view, the design, development, implementation, and management of SBMs are simultaneous activities across the organizations not chronological steps of an intended plan. But what type of SBM practices are relevant to assess?

The first step of this paper is thus to identify what type of SBM practices impact the organizations. We will use the notion of 'consequential' practices recently presented by Jarzabkowski (2021). She defines 'consequential' practices as "(1) something that is important or significant, and also (2) an action or effect that arises indirectly from another action, rather than as an intended cause and effect" (Jarzabkowski, 2021:9).

Method for identifying consequential SBM practices

The construction industry offers a particularly interesting context to observe and understand SBM practices. Construction companies are Project Based Organizations (PBO) that have attempted in the recent years to become more sustainable. In this context, organizations find it difficult to fully articulate their business models upfront in the face of environmental dynamism as projects play an essential role in the successful development and implementation of business models.

We focused on a large Scandinavian contractor company operating in the building industry which main business areas are building (apartments, offices and public institutions) and civil (roads bridges and other infrastructure). Our observations come from a qualitative case study which comprises of a critical reading and analysis of twelve years of corporate annual report, supplemented and validated with ongoing interaction and engagement with the case company and other public accessible material.

Annual reports are external corporate communication vessels with a marketing dimension (Frandsen and Johansen, 2011). However, sustainability annual reports are also directed towards the creation and redefinition of the company's service offers and while the new concepts presented in the annual reports might be detached from the internal working activities (Frandsen and Johansen 2011), they contribute to corporate identity and impact external stakeholder (Frandsen and Johansen 2011).

Thus, assessing an organization's activities using annual reports represent several limitations but along the interactions we had with the case companies it provides an opportunity to posit insightful hypotheses that need to be assess in future research.

Key Insights

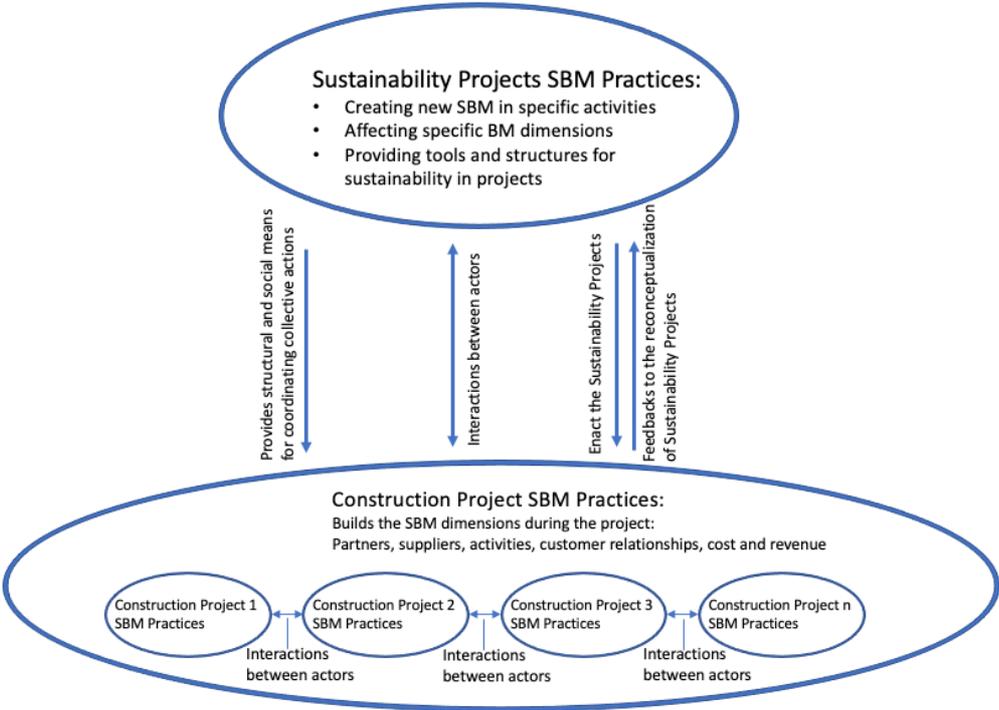
We identified two types of projects with consequential SBM practices. The construction projects constituting the core operation of the company and the sustainability projects comprising of the different activities aiming at improving the sustainability of the organization.

The company has initiated several sustainability projects as they attempted to reduce their Co2 emission in different activities, prevent workplace injury with big data and develop new HR systems for more inclusivity. These sustainability projects appear to be managed independently as there seem to be very little interaction between them, but this point needs further research. Among those projects, some were adapted or reconceptualized following insights from operations. Very recently successful sustainable practices were identified in the organization to reshape the training programs aiming at promoting sustainable approaches in the organization. This illustrates how the enactment of a new SBM feeds back to its reconceptualization. Moreover, these Sustainability Projects in the construction company provide structural and social means for coordinating collective action by providing the tools used to follow and guide the sustainability practices in the projects as the one developed in 2019 providing more efficient compliance monitoring and including non-monetary key performance indicators in their assessment of projects. To sum it up, Sustainability Projects create new SBM in specific activities, e.g. asphalt and concrete production, affect specific BM dimensions, e.g. resources, overall value propositions and activities, and provides tools and structures for sustainability practices in the construction projects. Thus, the SBM Practices of Sustainability Projects are consequential because they are important and significant (Jarzabkowski, 2021).

Meanwhile, we found that the construction projects present not only the context in which the sustainability project will be confronted to an operational reality, but they also offer the SBM conceptualization arena in which project managers develop practices and competencies to provide solutions to customers demands in terms of sustainability (even circularity in more recent cases). Indeed, an important aspect of the sustainability work of the organization in the past 10 years has been an increased realization of certified building. They started in 2010 with a handful of projects and quality certification but in more recent years they have developed several programs for experience sharing while trying to position themselves as industry leaders over the years when it comes to those certifications. There has been an evolution of those projects and their impact in the organization. At first, around 2010, they were isolated and rare occurrences but became slowly a priority and projects with strong sustainable requirements were actively pursued. Recently, Koch et al (2021) presented a paper in which they argue that the BM of a small contractor is constructed through everyday interaction with his customer as they negotiate the scope of the project. Similarly, the large construction company creates partnerships, diversifies its created and captured value while generating new costs and revenues through the interactions and routines taking places in the projects. Thus, the SBM practices in construction projects are consequential because they arise from the routines and activities of the construction projects (Jarzabkowski, 2021).

Discussion and conclusion

What are the ‘consequential’ Sustainable Business Modelling practices? As presented in the case of the construction company, on one hand there are the planned sustainability projects that are consequential because they are important or significant (Jarzabkowski, 2021) and on the other hand, there are the sustainability business modelling practices arising from the construction project practices as illustrated in the figure below.



Insert Figure 1: SBM practices in a large construction company

But over the period observed these SBM practices have evolved as the organization has become more mature in developing, implementing, and managing them. We observed that at different stages of maturity the organizations faced different challenges and motivations thus engaged in different types of actions. The construction projects started with developing isolated SBM practices and now are managed according to sustainable KPIs. Likewise, the sustainability projects started as isolated ventures on specific activities and now coordinate collective sustainable actions influencing the core activity of the organization.

In the present section we wish to present a framework to assess the maturity of the organization thus framing future research to observe the different SBM practices at different stages of maturity. Following the identification of consequential SBM practices, the maturity framework should be built according to three areas of maturity: The sustainability projects, the construction projects, and the interactions between the two groups.

A low level of maturity for sustainability projects would be when they are an isolated singular occurrence impacting a specific activity of the organization such as the work of the construction company in 2010 aiming at reducing the Co2 emission of their asphalt production. A higher level of maturity would be when those sustainability projects are managed by a small group within the organization driving sustainability in different BM dimensions in the organization and influencing some aspects of the core operations as it is the case presently in the case company. We imagine two extra levels of maturity. The first one when an entire department of the organization is driven by sustainability affecting all dimensions of its BM with sustainable considerations. The second one will be when the

company is developing a complete SBM affecting all its operations. Thus, we propose that the maturity of sustainability projects should be assessed according to these four stages:

- Component: Singular isolated project affecting one minor activity,
- Portfolio: Group with focus on sustainability coordinating sustainability projects and providing guidelines for the construction projects,
- Business area: Dedicated department with focus on sustainability, new SBMs,
- Company: Full company strategy.

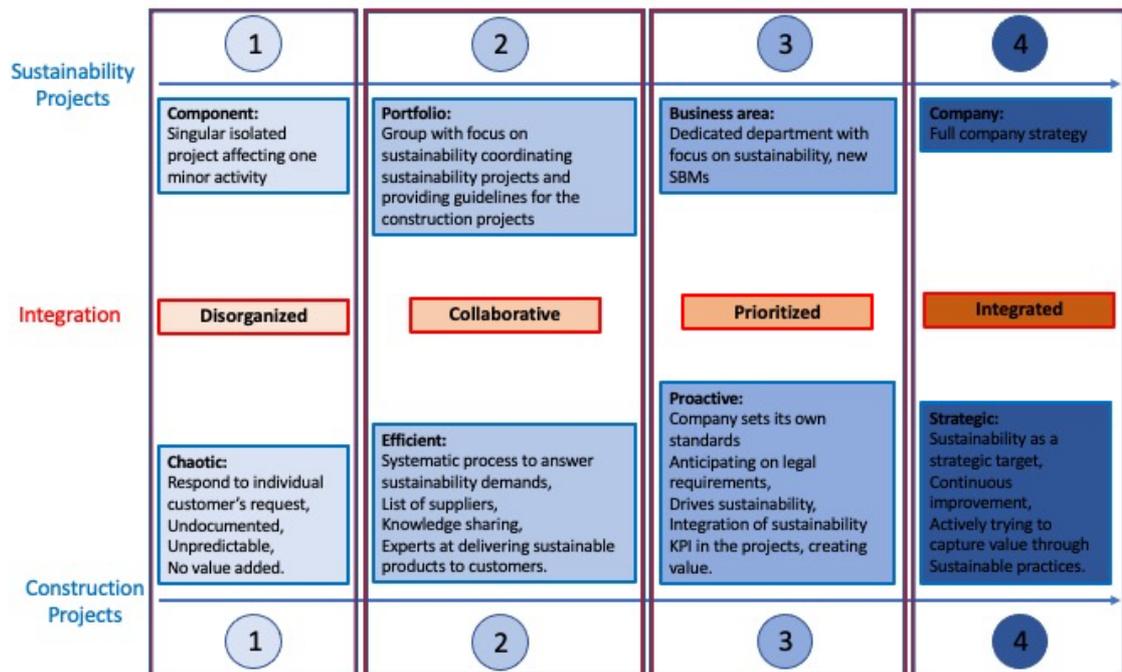
The SBM practices maturity of construction projects could also be assessed according to a four stages framework moving from a reactive and chaotic level towards a strategic level depending on the forces driving the SBM practices in the projects and the value delivered, created, or captured. The first level will be uncoordinated and undocumented practices reacting to customers demand seeing sustainability as an additional cost delivering no value. The second one would be an efficient approach to deliver sustainable project according to customer specification. The third one would be a proactive approach when the company drives the sustainability requirements systematically creating value through their sustainable practices. The final one would be a strategic approach aiming at continuously improving and capturing value out of sustainable practices:

- Chaotic: Respond to individual customer's request, undocumented, unpredictable, no value added.
- Efficient: Systematic process to answer sustainability demands, list of suppliers, knowledge sharing, experts at delivering sustainable products to customers.
- Proactive: Company sets its own standards higher than certification and anticipating on legal requirements, drives sustainability instead of the customer, integration of sustainability KPI in the projects, creating value.
- Strategic: Sustainability as a strategic target, continuous improvement, actively trying to capture value through sustainable practices.

Finally, the SBM practices maturity of the organization should also be assessed according to the way sustainability projects and construction projects interact. Thus, we should try to assess the organization's ability to favorize the continuous interplay of conceptualizing and enacting SBM, in particular, the feedback loop from enacting to (re)conceptualizing, manage the interactions among a diverse set of organizational stakeholders both vertically and horizontally, develop both structural and social means for coordinating collective action (Weiser, 2020):

- Disorganized: No feedback from projects, no interaction between actors, no coordination.
- Collaborative: Some reconceptualization from feedbacks, isolated events and knowledge sharing among actors horizontally and vertically, some structures and incentives to coordinate sustainable actions.
- Prioritized: more iteration of projects and systematic feedback capture, recurrent events, and training for actors, key and common structures incentives for sustainability.
- Integrated: Constant feedback loop from enacting to (re)conceptualizing, systematic and recurrent interaction between actors, structural and social means for coordinating collective actions.

In the figure below we present the three areas of maturity and their different stages:



Insert Figure 2: SBM practices Maturity Model

In conclusion, we set out at the beginning of this paper to develop and proposes hypotheses for a maturity model assessing Sustainable Business Model practices in the construction industry by looking at 10 years of annual reports. While the methodology supporting the model presented has certain limitations this paper identified consequential SBM practices and proposed a model to assess them. The hypotheses presented will be further explored and evaluated as part of a large EU funded project observing SBM development in SMEs in Scandinavia. This paper also introduces the commencing of a new understanding of business modelling practices relying on the Strategy-as-Practice theoretical lens exploring the organizational processes, structures, and interdependencies of sustainable business models thus enlarging business model research.

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