Journal of Business Models (2022), Vol. 10, No. 1, pp. 67-77

JOURNAL OF BUSINESS MODELS

Building Resilient and Innovative Business Models in the Era of Covid-19: A Process Approach

Marco Montemari[1] and Marco Gatti[2]

Abstract

The role that the Business Model (BM) concept and BM-related tools may play during times of crisis have been insufficiently investigated. This paper presents a process aimed at supporting companies in building resilient and original BMs through continuous innovation based on the existing BM literature. The present study highlights the role that BM tools may play during crisis situations, providing managers and entrepreneurs with an alert system (i.e., BM measurements) capable of signaling when a change should be implemented; a "library" of potential changes (i.e., BM pivots) to be generated in the BM; and a portfolio of potential available options when considering how the BM should be changed (i.e., BM configurations). The paper additionally highlights how tools for BM mapping, control, and innovation can provide one another with information and can be connected in a way that allows companies to achieve a synergetic effect in the face of instability and uncertainty.

Please cite this paper as: Montemari, M. and Gatti, M. (2022), Building Resilient and Innovative Business Models in the Era of Covid-19: A Process Approach Vol. 10, No. 1, pp. 67-77

Keywords: Business Models, Resilience, Covid-19, Crisis

1 Department of Management, Università Politecnica delle Marche, Ancona, Italy

ISSN: 2246-2465
DOI: https://doi.org/10.54337/jbm.v10i1.7340

Introduction

The crisis associated with the COVID-19 pandemic has disrupted the ways in which companies operate and the Business Models (BMs) that they implement (Bagnoli, Dal Mas, Biancuzzi and Massaro, 2021). Supply chain access, production processes, channel management, and customer relationships have changed radically over the last two years, exerting pressure on revenues and cash flow and, ultimately, putting business continuity at risk (Seetharaman, 2020).

In managing the impacts of the lockdowns and health crisis, companies must prepare for the mid- and long-term effects of the COVID-19 pandemic. The ways in which business is conducted will be dramatically altered, and achieving stability in the new "normal" will not be easy; many after-shocks are anticipated and, following gradual exits from severe lockdowns, restrictive measures will fluctuate to mitigate new outbreaks.

The base case setting will thus be a bumpier path with persistent disruptions to the environment in which companies operate over the coming years, creating fluid and continuously changing scenarios. In such settings, society will likely oscillate between imposing and lifting rules and policies (e.g. travel restrictions, social distancing, hygiene requirements), and shifts will occur on many fronts, such as regulation (e.g., new privacy laws), technology (contactless transactions), and channels (universal home delivery), to name a few.

Overall, significant instability may be expected, and new scenarios will regularly bring new risks that must be faced but also new opportunities to be seized (Ritter and Pedersen, 2020). Successful companies in the COVID-19 era will be those that will manage to remain flexible and innovate swiftly to work amid the scenarios that are likely to emerge over time (Aagaard and Nielsen, 2021). In such a context, the BM concept may play a key role since research has acknowledged that companies' approaches to designing, changing, and innovating their BMs provide key leverage points for performance and competitive advantage (Chesbrough, 2010) in hyper-competitive, unstable, and turbulent business environments (Achtenhagen, Melin and Naldi, 2013) such as those that emerged during the pandemic. Despite this, the roles that the BM concept and BM-related tools may play during times of crisis remain poorly investigated, with few exceptions (Oleksiy and Dewald, 2018; Breier, Kallmuenzer, Clauss, Gast, Kraus and Tiberius, 2021). As such, company managers and consultants are left relatively empty-handed by the existing literature and the limited available frameworks when it comes to refining, redefining, or renewing BMs in crisis situations.

This consideration lends itself to this paper's aim, which is to provide a process aimed at supporting companies in building resilient and original BMs through continuous innovation by drawing on the existing BM literature. In doing so, this paper also reflects on the role that BMs and their tools can play in assisting companies to navigate the COVID-19 era. The remainder of the paper is structured as follows: Section 2 provides an overview of the BM tools proposed in the literature for BM mapping, control, and innovation; Section 3 demonstrates how these tools can be combined and organized within a process that can support companies in navigating in the COVID-19 era. Finally, Section 4 concludes the paper by detailing its main contributions.

Business Model Tools: An Overview

The Business Model Canvas

The Business Model Canvas (Osterwalder and Pigneur, 2010) is a popular tool that companies use to design and map their BMs. It may be deconstructed into nine basic building blocks that provide a complete and structured overview of a company's BM and illustrate the logic according to which value is created, delivered, and captured. The nine blocks cover the four main areas of a business: customer interface (customer segments, channels, customer relationships), products and services (value proposition), infrastructure (key activities, key resources, key partnerships), and financial viability (revenue streams, cost structure).

Aside from being a powerful tool for designing and mapping the "as-is" BMs of both start-ups and established companies, the Business Model Canvas has become a particularly popular tool for assessing a given BM's strengths and weaknesses, thus

triggering discussion around how best to challenge and change the current way in which a company creates, delivers, and captures value (Athanasopoulou and De Reuver, 2020).

Business Model Measurements

Research has shown that BMs significantly affect companies' performances (Rédis, 2009; Zott and Amit, 2007, 2008) and thus represent fruitful platforms for identifying Key Performance Indicators (KPIs) (McGrath, 2010; Montemari and Chiucchi, 2017; Nielsen and Montemari, 2012). McGrath (2010) and Nielsen and Montemari (2012) acknowledged that BMs help managers design KPIs that reflect the critical dimensions of firm performance and provide information on how a company's competitiveness may be increased or decreased. Montemari, Chiucchi and Nielsen (2019), in particular, demonstrated that BMs help uncover the crucial aspects of the value creation, delivery, and capture process, and this helps direct the measurement process toward what is actually worth measuring, thus enhancing the resulting KPIs' relevance. Moreover, Nielsen and Roslender (2015, p. 265) further argued that BMs have the potential to enable the "entangling of indicators". Entanglement is an important process that reduces the risk that individual KPIs will ultimately be uncoordinated and unrelated to the company's means of value creation, delivery, and capture.

Overall, BM-designed KPIs have the potential to guide managerial decision making toward the pursuit of the company's strategy by defining strategic objectives, identifying actions aimed at achieving those objectives and assessing the extent to which the objectives have been achieved (Montemari et al., 2019). Moreover, they provide information that can help identify and manage the BM's strengths and weaknesses and evaluate its validity (i.e., reveal opportunities to innovate the BM) (Nielsen, Lund, Montemari, Paolone, Massaro and Dumay, 2019).

Business Model Pivots

Over the last 15 years, BM innovation has attracted increasing attention in management research and among practitioners (Foss and Saebi, 2017). The ever-shorter lifecycles of products and services along with the hyper-competitive and global business landscape have led companies to more frequently and radically rethink and innovate their BMs (Sosna, Trevinyo-Rodríguez and Velamuri, 2010). As such, it often happens that one or more assumptions underlying the current BM must be altered, and it was within this context that Ries (2011) coined the concept of the "pivot", intended as a change in a fundamental aspect of the BM. A pivot may entail a simple change, such as recognizing that the product's price was inappropriate, or it may entail a more complex change, such as switching the target customers or repackaging a monolithic product into a family of products (Blank and Dorf, 2012). Ries (2011) identified ten types of pivot:

- Zoom-in pivot: This occurs when a single feature of a product becomes the entire product, resulting in a simpler and streamlined solution. It is fruitful when the company recognizes that a single feature of a product achieves greater traction and interest than the other features.
- Zoom-out pivot: This is the zoom-in pivot in reverse and occurs when the existing product becomes just a single component in a suite of features as part of a larger product. It is fruitful when the existing product is insufficient to support a customer set.
- Customer segment pivot: The products or services can attract real customers but not the customers it originally planned to serve. This pivot type thus entails a switch from the original customer segment to a new one and is optimized for this new target. It is likely that the value proposition, pricing, and channels will all need to be reviewed.
- Customer need pivot: The products or services can solve an actual problem for the customers that the company aims to target but not the problem it originally planned to solve. Other relevant problems prove to be more important, and the customers are willing to pay to solve them. Pivots of this type thus take place within the original customer segment but may require that existing value proposition be repositioned or that a completely new value proposition be developed.

- Platform pivot: This involves a change from an application to a platform or vice versa. Pivots of this nature may occur when individual applications converge and become a platform that third parties may also use to create their own related products.
- Business architecture pivot: Either of two basic logics will underpin a given BM: the complex systems model (low volumes, high margins) or the volume operations model (high volumes, low margins). Performing a business architecture pivot means moving from one logic to the other. This switch typically impacts other aspects of the BM, particularly with respect to the customer interface.
- Value capture pivot: This entails changing how the company monetizes or earns revenues (i.e. changing the revenue model). Pivots of this type may also impact other areas of the BM, such as the features of the value proposition and sales and marketing operations.
- Engine of growth pivot: This entails a change in the growth strategy to achieve faster or more profitable growth. There are three basic engines of growth: viral, paid, and sticky. The viral engine occurs when current customers recommend the company to other potential customers; the paid engine is the traditional means of growing by investing in marketing to acquire new customers; and the sticky engine focuses on existing customers and aims to enhance customer loyalty and retention. Pivots of this type entail switching from one engine to another and typically require a change in the revenue model.
- Channel pivot: This entails changing how and where the company delivers its products or services to customers (own stores, partner stores, websites, apps, sales agents, wholesalers, etc.) to promote greater effectiveness. Pivots of this nature typically require adjustments to many elements of the BM, such as the product's price, features, and competitive positioning.
- Technology pivot: This means using a new technology to achieve the same solution with benefits in terms of lower costs, superior prices, and improved performance. Such pivots do not typically entail major changes in the targeted customer segments, the problem to be solved, the revenue model, and the channels used.

Business Model Configurations

Increased awareness of BM innovation's vital importance to companies has driven research efforts toward the creation of frameworks and tools that could assist managers and entrepreneurs in renewing and updating their organizations' existing BMs (Foss and Saebi, 2017). One promising approach is to leverage creative imitation and build on reoccurring bestselling solutions as a blueprint for BM innovation (Weking, Hein, Böhm and Krcmar, 2020; Montemari, Taran, Schaper, Nielsen, Thomsen and Sort, 2022) since research has shown that 90% of successful BM innovations actually recombine existing BMs (Gassmann, Frankenberger and Csik, 2014). Following this line of reasoning, innovation lies in the understanding, translation, recombination, and transfer of successful patterns from one industry to another (Remane, Hanelt, Tesch and Kolbe, 2017). This approach to BM innovation is based on the concept of BM configurations, i.e., ideal-type examples that describe and distinguish the behavior of companies that have proven successful in the past in different industries or contexts, thus providing managers, practitioners, and academics with formulas that have already been tried and tested in the real world (Baden-Fuller and Morgan, 2010). These BM configurations have the advantage of inspiring other companies to adopt alternative ways of designing their logic to create, deliver, and capture value (Taran, Nielsen, Montemari, Thomsen and Paolone, 2016).

For example, the BM configuration called "multi-sided platform" (Osterwalder and Pigneur, 2010) creates value by facilitating interactions between two or more distinct but interdependent customer

segments. The value proposition differs for each customer segment served, and each customer segment produces a different revenue stream, even though one or more segments may enjoy free offers or reduced prices subsidized by revenues from other customer segments. The key resource required for this configuration is the platform, and creative human resources to manage and to promote the platform are also vital. This BM configuration is used by Google to connect Internet users and advertisers and by Nintendo to connect gamers and game developers.

"Inside-out" (Osterwalder and Pigneur, 2010) is a BM configuration through which companies generate revenues by selling or licensing their own unused or underused intellectual properties or technologies to firms operating in other industries. This BM configuration requires a strong patenting strategy and is used by knowledge-intensive companies, such as GlaxoSmithKline or BASF, to monetize R&D that cannot be directly applied to new products in the core business.

It is worth noting that real-life companies tend to represent mixtures of different BM configurations. For example, Dell combines the following:

- "mass-customized commodity", as it offers "have it your way" models along with competitive prices and fast delivery;
- "disintermediation", as the models are delivered directly to the customer rather than through intermediaries;
- "long tail", as the company sells a wide range of customized models in relatively low quantities;
- "upfront payments", as the customers pay upfront and generate high liquidity;
- "outside-in", as it gathers competences and electronic components from its network of partners.

The most complete BM configuration approaches, to date, are those of Gassmann et al. (2014) and Taran et al. (2016), who presented lists of 55 and 71 BM configurations, respectively.

Combining And Organizing Business Model Tools: A Process to Build Resilient And Innovative Bms in the Era of Covid-19

This section will show how the abovementioned tools can be combined and organized within a seven-step process to support companies in navigating the COVID-19 era and in building resilient and original BMs through continuous innovation.

A) Map the current BM: The first step of the process involves mapping the "as-is" BM to understand its main features and idiosyncrasies. To perform this step, the Business Model Canvas (Osterwalder and Pigneur, 2010) can be used to quickly and simply map the company's current BM as a fundamental prerequisite to performing the next steps in the process.

B) Assess the impact of the new scenario on the current BM: This step investigates which building blocks are most affected by the new scenario in which the company must operate.

Entrepreneurs' and managers' perceptions should be confirmed through the use of two or three KPIs for each building block. Overall, the Business Model Canvas can be used as a platform for establishing KPIs, as suggested by Montemari et al. (2019), and the weekly/monthly trend of these KPIs must be analyzed to provide information on what is happening within each building block, thus identifying those that merit closer managerial attention.

Typically, building blocks pertaining to the customer interface and infrastructure include non-financial (quantitative-physical and qualitative) KPIs (i.e., leading measures that capture the causes of the company's success) (Eccles, 1991), while building blocks pertaining to financial viability include financial lagging KPIs, meaning that they merely measure outcomes of managerial actions, shifting the focus away from what actually generates the results (Kaplan and Norton, 1996).

Table 1 below provides a platform to perform this step and some exemplar KPIs.

Table 1.		
Building blocks	**KPIs**	**Trend**
Customer segments	Orders per segment, sales per segment	Very negative
Value proposition	% of orders delivered with damaged products, % of overdue orders	Steady
Customer relationships	Customer retention rate, customer acquisition rate	Mildly negative
Channels	Average sales per channel, average sales per salesman	Mildly negative
Revenue streams	Total sales, ROS	Very negative
Key activities	Efficiency and effectiveness KPIs	Mildly negative
Key resources	Staff turnover, training hours per employee	Mildly negative
Key partnerships	Average spend per supplier, average spend per purchase order	Very positive
Cost structure	Average production cost of items, average handling cost per order	Mildly positive

Table 1: Exemplar KPIs within each building block

It is likely that the building blocks will be affected in different ways and, depending on the KPIs' trend, the impact can be very negative, mildly negative, mildly positive, or very positive; alternatively, the new scenarios can have no effect on some of the current BM's building blocks.

All in all, the aim of this step is to understand where to intervene and which building blocks need to be innovated because the new scenario poses them, and the BM as a whole, at risk, or because the new scenario offers new opportunities to be caught.

C) Decide what kind of pivot or combination of pivots the BM needs: Step b raises managers' and entrepreneurs' awareness of where they should intervene and which building blocks are at risk or present new opportunities and thus require innovation. The question now is what to do next. Step c aims to provide an answer to this question through pivots. Pivots indeed provide managers with a "library" of potential changes that may be generated in the BM based on the outcomes of step b. It is likely that a pivot on customer segments or needs will be appropriate when KPIs demonstrate that customers are under pressure. A channel pivot is suitable when the way in which the company delivers its products is no longer effective in the new scenario; when customer relations have been identified as an area in distress, an engine of growth pivot can be used to improve this building block's performance.

D) Decide how to operationalize the pivots through BM configurations: Based on the concept of BM configurations, step d provides companies with a portfolio of available potential options with which to perform the pivots or a combination of pivots defined in step c.

For example, when it comes to performing a value capture pivot, several BM configurations are available to change the revenue model of a company: leasing, subscription, bait and hook, pay-as-you-go, cell phone, to name a few. Thus, in such a context of change, a company might decide to modify the way it earns revenues by adopting a BM configuration based on the pay-as-you-go logic (Johnson, 2010) - that is, by charging the customer for metered services based on actual usage (e.g., Zipcar). Another option would be to adopt bait and hook logic (Osterwalder and Pigneur, 2010), which entails offering customers an inexpensive or free initial product and then have them pay more for additional related products (e.g., Gillette).

A channel pivot can be performed through BM configurations such as disintermediation, channel maximization, e-shop/shop, or e-mall/mall. In particular, how and where a company delivers its value proposition to customers might be changed by adopting a disintermediation logic (Johnson, 2010) - that is, by delivering a product or service directly to the customer rather than through intermediary channels (e.g., Dell). Another logic that could be adopted is entry into an e-mall (Timmers, 1998)—a constellation of e-shops, typically under the common umbrella of a well-known and trusted brand (e.g., eBay).

E) Assess the impact of innovation on the current BM: The decision to perform one or more pivots and adopt new BM configurations entails a change in the current BM. It is relevant at this stage to understand the items (resources, activities, partnerships, etc.) that must be added to execute the innovated BM, those that are no longer useful and that should be eliminated from the innovated BM, and those that remain unchanged in the move from the current BM to the innovated BM.

Some building blocks will be significantly impacted by the pivoting process and the adoption of new BM configurations, while for others the impact will be lower or even non-existent. It is likely that the building blocks identified in step b will undergo major changes, since they are at the epicenter of the pivot process (i.e., the building blocks at risk that needed closer managerial attention). These changes are known as first-order changes. However, since the BM is a system of interconnected items (Massa et al., 2018), it is also relevant to understand second-order changes - that is, the impacts of the pivot process and the adoption of new BM configurations on the remaining building blocks.

F) Execute and measure: This step leads the company to provide itself with the missing items

required to perform and execute the innovated BM. At this stage, the trend of KPIs - particularly those that were proven to be under pressure in step b - should be monitored to determine whether the pursued innovations have generated the desired improvements.

G) Restart the process from step b when a new scenario pops up.

Discussion and Conclusions

Drawing on the BM literature, this paper aimed to provide a process capable of supporting companies in building resilient and original BMs through continuous innovation. This seems to be particularly relevant in highly dynamic contexts, such as that which characterizes the COVID-19 era.

Through a combination of the Business Model Canvas (Osterwalder and Pigneur, 2010), BM measurements (Montemari et al., 2019), BM pivots (Ries, 2011), and BM configurations (Gassmann et al., 2014; Taran et al., 2016), this process provides a structured approach to unveiling the main features of the current BM, to regularly assessing the impacts of new scenarios on the BM, to identifying the areas that require innovation, and to choosing a course of action for adapting the BM to new scenarios that will emerge over time.

This paper's theoretical contribution is twofold. First, the paper connects, organizes and systematizes within a structured process several BM tools that have been proposed in the BM literature. The paper thus highlights how tools for BM mapping, control, and innovation can convey information to one another and can be connected in a way that allows companies to obtain a synergy effect when it comes to face instability and uncertainty. Overall, the paper shows that the combined and organized use of such tools is more valuable and useful than the application of single tools in isolation, thus highlighting that silo mentalities should be avoided. In doing so, this paper contributes to the extant literature by providing a holistic view of the different BM tools while research hitherto has analyzed them individually to show their usefulness along with their organizational implications. This contributes to our knowledge with respect to BMs and opens up new opportunities for research in which benefits resulting from the adoption of BM tools are observed from a holistic rather than an individual perspective.

Second, given the scarcity of the literature on the role played by BM in times of crisis, this paper contributes to this stream of research by highlighting that BM tools can play a key role in responses to crisis situations since they provide managers and entrepreneurs with

- an alert system (i.e., BM measurements) capable of signaling when to change;
- a "library" of potential changes (i.e., BM pivots) to be generated in the BM;
- a portfolio of potential options available to decide how to change the BM (i.e., BM configurations).

This is relevant from both the theoretical and practical perspectives. At a theoretical level, it offers preliminary insights on the ways in which managerial tools such as BM-related ones can be crucial when faced with uncertainty like that which characterizes the COVID-19 era. From a practical perspective, the paper proposes a tool-based process that companies can adopt to face the crisis linked to the spread of COVID-19 and that may also be useful in other crisis situations not directly related to the current pandemic. In fact, BM tools, if used in combination, have the potential to increase companies' resilience when faced with crises since they can help managers and entrepreneurs to shift their trajectory and adopt original and innovative solutions. This may help support managers in their decision making activities, which are even more critical during crisis situations such as the ongoing one.

Future research should seek to apply the abovementioned process in practice to explore its functioning and, in particular, its effects, and eventually its criticisms, within organizations.

References

Aagaard, A., Nielsen, C. (2021), The Fifth Stage of Business Model Research: The Role of Business Models in Times of Uncertainty, Journal of Business Models, Vol. 9, N. 1, pp. 77-90.

Achtenhagen L., Melin L., Naldi L. (2013), Dynamics of business models – strategizing, critical capabilities and activities for sustained value creation, Long Range Planning, Vol. 46, N. 6, pp. 427-442.

Athanasopoulou A., De Reuver M. (2020), How do business model tools facilitate business model exploration? Evidence from action research, Electronic Markets, Vol. 30, N. 3, pp. 495-508.

Baden-Fuller C., Morgan M.S. (2010), Business models as models, Long Range Planning, Vol. 43, N. 2, pp. 156-171.

Bagnoli C., Dal Mas F., Biancuzzi H., Massaro M., Business Models Beyond Covid-19. A Paradoxes Approach, Journal of Business Models, Vol 9, No 4, pp. 112-124.

Blank S., Dorf B. (2012), The Startup Owner's Manual – the Step-by-Step Guide for Building a Great Company, K&S Ranch, Pescadero, CA.

Breier M., Kallmuenzer A., Clauss T., Gast J., Kraus S., Tiberius V. (2021), The role of business model innovation in the hospitality industry during the COVID-19 crisis, International Journal of Hospitality Management, Vol. 92, 102723.

Chesbrough H. (2010), Business model innovation: opportunities and barriers, Long Range Planning, Vol. 43, Nos 2-3, pp. 354-363.

Eccles R.G. (1991), The performance measurement manifesto, Harvard Business Review, Vol. 69, N. 1, pp. 131–137.

Foss N. J., Saebi T. (2017), Fifteen years of research on business model innovation: How far have we come, and where should we go?, Journal of Management, Vol. 43, N. 1, pp. 200-227.

Gassmann H., Frankenberger K., Csik M. (2014), The Business Model Navigator, Pearson Education Limited, Harlow.

Johnson M.W. (2010), Seizing the White Space: Business Model Innovation for Growth and Renewal, Harvard Business School Press, Boston, MA.

Kaplan R.S., Norton D.P. (2004), How strategy maps frame an organisation's objectives, Financial Executive, Vol. 20, N. 2, pp. 40–45.

Massa L., Viscusi G., Tucci C. (2018), Business models and complexity, Journal of Business Models, Vol. 6, N. 1, pp. 59-71.

McGrath R.G. (2010), Business models: A discovery driven approach, Long Range Planning, Vol. 43, Nos. 2–3, pp. 247–261.

Montemari M., Chiucchi M.S. (2017), Enabling intellectual capital measurement through business model mapping: The Nexus case, in Guthrie J., Dumay J., Ricceri F., Nielsen C. (Eds.), The Routledge Companion to Intellectual Capital, Routledge, London.

Montemari M., Chiucchi M.S., Nielsen C. (2019), Designing Performance Measurement Systems Using Business Models, Journal of Business Models, Vol. 7, N. 5, pp. 48-69.

Montemari M., Taran Y., Schaper S., Nielsen C., Thomsen P., Sort J. (2022), Business model innovation or Business model imitation – That is the question, Technology Analysis & Strategic Management, DOI: 10.1080/09537325.2022.2034780.

Nielsen C., Montemari M. (2012), The role of human resources in business model performance: The case of network-based companies, Journal of Human Resource Costing & Accounting, Vol. 16, N. 2, pp. 142–164.

Nielsen C., Roslender R. (2015), Enhancing financial reporting: The contribution of business models, British Accounting Review, Vol. 47, N. 3, pp. 262–274.

Nielsen C., Lund M., Montemari M., Paolone F., Massaro M., Dumay J. (2019), Business Models – A Research Overview, Routledge, New York.

Osiyevskyy O., Dewald J. (2018), The pressure cooker: When crisis stimulates explorative business model change intentions, Long Range Planning, Vol. 51, N. 4, pp. 540-560.

Osterwalder A., Pigneur Y. (2010), Business Model Generation. A Handbook for Visionaries, Game Changers and Challengers, John Wiley and Sons, Hoboken, NJ.

Rédis J. (2009), The impact of business model characteristics on IT firms' performance, International Journal of Business, Vol. 14, N. 4, pp. 291–307.

Remane G., Hanelt A., Tesch J. F., Kolbe L. M. (2017), The business model pattern database - A tool for systematic business model innovation, International Journal of Innovation Management, Vol. 21, N. 1.

Ries E. (2011), The Lean Start Up, Currency, New York.

Ries E. (2011), The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses, Crown Business, New York.

Ritter T., Pedersen C. L. (2020), Analyzing the impact of the coronavirus crisis on business models, Industrial Marketing Management, Vol. 88, pp. 214-224.

Seetharaman P. (2020), Business models shifts: Impact of Covid-19, International Journal of Information Management, Vol. 54.

Sosna M., Trevinyo-Rodríguez R.N., Velamuri S.R. (2010), Business model innovation through trial-and-error learning: the Naturhouse case, Long Range Planning, Vol. 43, Nos 2-3, pp. 383-407.

Taran Y., Nielsen C., Montemari M., Thomsen P., Paolone F. (2016), Business model configurations: a five-V framework to map out potential innovation routes, European Journal of Innovation Management, Vol. 19, N. 4, pp. 492-527.

Timmers P. (1998), "Business models for electronic markets", Journal on Electronic Markets, Vol. 8, No. 2, pp. 3-8.

Weking J., Hein A., Böhm M., Krcmar H. (2020), A hierarchical taxonomy of business model patterns, Electronic Markets, Vol. 30, N. 3, pp. 447–468.

Zott C., Amit R. (2007), Business model design and the performance of entrepreneurial firms, Organization Science, Vol. 18, N. 2, pp. 181–199.

Zott C., Amit R. (2008), The fit between product market strategy and business model: Implications for firm performance, Strategic Management Journal, Vol. 29, N. 1, pp. 1–26.