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ESSAY

REVISED Unicanvas: Exploring a tool for strategic management

[version 3; peer review: 5 approved, 2 approved with reservations]

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v3 **First published:** 11 Apr 2024, **4**:64
https://doi.org/10.12688/openreseurope.17233.1
Second version: 09 Sep 2024, **4**:64
https://doi.org/10.12688/openreseurope.17233.2
Latest published: 05 Dec 2024, **4**:64
https://doi.org/10.12688/openreseurope.17233.3

Abstract

Purpose

This research proposes an adapted version of Business Model Canvas (BMC) as a potential strategic tool for the design of the business model of Higher Education Institutions (HEIs). In the context of fifth-generation universities, the University-Model Canvas (Unicanvas) offers a solution to some limitations of traditional strategic tools. Unicanvas aims to be a critical visual and dynamic tool to address the new challenges faced by universities such as internationalization, digitalization, sustainability, and corporate social responsibility.

Research methods/Approach

We adapt the strategic building blocks, in which some of the BMC blocks have been renamed and an achievement block has been added. We reflect theoretically on the peculiarities of each block in the context of universities to explain the versatility of the tool for designing university business models tailored to different value propositions and for various beneficiaries.

Findings and implications

Unicanvas offers universities the flexibility and dynamism to adapt their different business models to various forms of value creation that arise from their growing number of beneficiaries, missions, and the new trends and challenges they face. We conclude that using this participatory, dynamic, intuitive, and flexible strategic tool will facilitate the holistic design of the business model of these institutions.

Open Peer Review

Approval Status ✓ ✓ ✓ ✓ ✓ ?

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version 3 (revision) 05 Dec 2024		✓ view				? view
version 2 (revision) 09 Sep 2024	✓ view			✓ view	✓ view	
version 1 11 Apr 2024	? view	? view	✓ view	? view	? view	

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Keywords
Strategic management, University, Business model canvas, Higher Education Institutions

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This article is included in the Horizon 2020 gateway.

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Author roles: Segundo J: Conceptualization, Investigation, Writing – Original Draft Preparation, Writing – Review & Editing; **Fernandez-Alles M**: Conceptualization, Investigation, Writing – Original Draft Preparation, Writing – Review & Editing; **Velez M**: Investigation, Writing – Original Draft Preparation, Writing – Review & Editing; **Sanchez JM**: Conceptualization, Investigation, Supervision, Writing – Original Draft Preparation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No [101017454] (reinforcing Sustainable Actions, resilience, cooperation, and harmonization across and by the SEA-EU Alliance [reSEArch-EU]).

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How to cite this article: Segundo J, Fernandez-Alles M, Velez M and Sanchez JM. **Unicanvas: Exploring a tool for strategic management [version 3; peer review: 5 approved, 2 approved with reservations]** Open Research Europe 2024, **4**:64 https://doi.org/10.12688/openreseurope.17233.3

First published: 11 Apr 2024, **4**:64 https://doi.org/10.12688/openreseurope.17233.1

REVISED **Amendments from Version 2**

Only two very specific changes have been included in this latest version, made at the suggestion of one of the reviewers, for the sake of clarity. On the one hand, a sentence in the introduction has been shortened to avoid repetition in the background section. Secondly, the sentence in the section on customer segments has been reworded to indicate that there is an interesting debate on the role that students play as customers, or not, in universities.

Any further responses from the reviewers can be found at the end of the article

Introduction

Higher Education Institutions (HEIs) have traditionally assumed the triple mission of teaching, research, and transfer. Nowadays, the role of universities is also highlighted in the model of the quintuple helix as participants in social and economic development, considering natural context and regional issues (Carayannis & Campbell, 2011; European Commission, 2020; Garcia Aracil, 2013; Garcia *et al.*, 2022). In the context of fifth-generation universities, these institutions are responsible not only for the qualification of students, research and knowledge creation, university-industry collaboration for knowledge commercialization for responding to the demands and needs of society but also for the engagement of their activities in economic, social and natural contexts (Audretsch & Belitski, 2021; European Commission, 2020; Thomas *et al.*, 2023). In these circumstances, universities are increasingly concerned about the importance of strategic planning for value creation. Dahlan *et al.* (2020:47) note that "the role of higher education in society and the economy is changing, and will have to transform the way they deliver their value propositions". As Carayannis *et al.* (2012:282) state "the emergence of […] quintuple helix structures within society identifies new knowledge production actors within a knowledge-based economy which may signal changes to the university business model value proposition".

On the other hand, many organisations have traditionally faced a changing context. Still, in recent years international conflicts, financial crises, climate change, technological shifts, political changes, and pandemics have resulted in a highly turbulent environment and an unpredictable future (Johnsen, 2023). For HEIs, planning strategies in this context is a challenge (Garcia Aracil, 2013; Thomas *et al.*, 2023; Vlachopoulos, 2021). Thus, Talukdar (2021) notes that HEIs must seek greater agility to cope with technological changes and an increasing amount of environmental disruptiveness. Dahlan *et al.* (2020) highlight some trends that will undoubtedly change how universities operate: the democratization of knowledge and access, contestability of markets and funding, digital technologies, global mobility, and integration with industry. Furthermore, other authors point to some external and internal challenges, which include demographic student changes, increasing higher education demands, increasing competition, international and new emerging models of higher education, society contingencies, increased cost education, lower government funding, rapid technological advances, digitalization, and new entrepreneurial/ethics/sustainable/social standards (Garcia *et al.*, 2022; Guilbault, 2016). This complexity pulls and pushes universities to experiment with new business models to respond to external and internal challenges (Audretsch & Belitski, 2021; Dahlan *et al.*, 2020). As stated by Dahlan *et al.* (2020:49), "There is a need for innovative and dynamic business model designs in meeting the changing requirements of the University of the Future". The study of how universities propose different business models to create different value propositions is an opportunity, since, as Miller *et al.* (2014:266) point out, "the core value offering of a university presents an underresearched context in relation to business model design".

Most HEIs have shown isomorphism in developing strategic planning according to the same scheme (Bryson & Alston, 2011). Furthermore, we found that in the process of strategic management of universities traditional strategic tools present some limitations (Fumasoli & Hladchenko, 2023; Han & Zhong, 2015; Zechlin, 2010). Firstly, they are static (Fuertes *et al.*, 2020). strategic plans tend to work with long-term goals and are updated after this period, which implies inertia and little flexibility and dynamism. As Johnsen (2023:446) points out, in long-range plans "conditions will often change during the implementation of plans". Secondly, these strategic plans have been designed by top management, resulting in plans with little participation, which means that implementation is sometimes not very well supported. Thirdly, one-size-fits-all tools are inappropriate. while many challenges are shared among universities, each institution must specify its way of addressing them, *i.e.,* what kind of university it wants to be, what its value is, and what its strategic model will be, questions that are difficult to answer with an isomorphic strategic formulation. On the other hand, the strategic plan entails performance or output goals (Jalal & Murray, 2019; Zechlin, 2010), without considering other value propositions and other outcomes, monetary or otherwise, that universities can achieve. Finally, Johnsen (2023:446) states that "when there is great uncertainty, authorities and senior managers do not have enough knowledge to make good, long range plans". According to these authors, some planning tools are too simple to capture the many aspects of reality. In sum, traditional strategic tools are not able to adequately address the whole new circumstances of HEIs, marked by the complexity of their functions and social and economic challenges. Consequently, new strategic tools are needed to define dynamic models (Garcia Aracil, 2013; Vlachopoulos, 2021). As Audretsch & Belitski (2021:978) suggest, university strategic management requires the application of strategic tools already tested and legitimized in the business context.

To gain competitive advantages, new more interactive, collaborative, open, and complex business models, with more activities, stakeholders, and mechanisms are required (Miller *et al.*, 2014). Design thinking approach and business modeling tools such as business model environmental map, business model innovation, business model canvas, and value proposition canvas are emerging in the context of universities (Dahlan *et al.*, 2020). Specifically, the business model canvas (BMC) of

Osterwalder and Pigneur (2010) is proposed. It is built on design thinking and joint inquiry techniques and enables the design of new business models in the HEIs. This visual tool allows management practitioners to jointly inquire into specific strategic management problems (Avdiji *et al.*, 2020). Osterwalder and Pigneur (2010) characterize a BMC by nine key strategic components, In a single-page view. BMC provides an easy, visual, dynamic, intuitive, didactic, and flexible device that can be developed and continuously improved to shape and renew any business strategy. BMC can also highlight the alignment of top strategies and bottom actions, which enhance strategic competitiveness and even discover previously unseen opportunities for value creation. For all these reasons, it is a conceptual tool that many scholars and practitioners have widely adopted for supporting business model innovation, being used in different sectors, for other types of companies, and to explain different performances. There are adaptations of this tool, such as the lean canvas, the ecocanvas, the social canvas, and the sustainable business canvas.

In the context of HEIs, BMC has been timidly used, but either in a partial way or to achieve some specific strategic objectives (Al-Filali *et al.*, 2024; Dahlan *et al.*, 2020; Gaus & Raith, 2013; Gaus & Raith, 2016; Gomes *et al.*, 2020; Hadăr *et al.*, 2016; Jongbloed & Kottmann, 2022; MacBryde & Franco-Santos, 2016; Mulyana *et al.*, 2018; Polat, 2022; Rytkonën & Nenonen, 2014; Trevisan *et al.*, 2022; Trunina *et al.*, 2021). However, its versatility in developing multiple business models in universities has not been highlighted, despite its focus on creating different types of value for an increasing number of beneficiaries.

This research aims to propose a modified version of BMC, named University-Model Canvas (Unicanvas). This proposal is not just an illustration but a discussion of the implications of the changes, trends, and challenges faced by HEIs in the design of their strategic business models. We also reflect theoretically on the peculiarities of each of the blocks in the context of universities to argue the versatility of the tool to design university business models customized to different value propositions and for different beneficiaries. We also reflect on the suitability of Unicanvas as a strategic model innovation tool to reimagine and redesign changes to some or all of the elements by which HEIs create, deliver, and capture value.

The main contribution of the document is to provide a dynamic and visual tool particularly suitable for defining HEI business models. The main advantage of this tool against traditional tools is that allows the design of business models tailored for different universities, diverse activities, and stakeholders. Thus, Unicanvas is suggested for its effectiveness, practicality, and easy-to-use tool design.

The paper is structured as follows. After this introduction, the importance of strategic management for HEIs is discussed. Subsequently, an analysis of the origins and elements of Unicanvas is discussed. Finally, the conclusion, discussion, contributions, implications, and future lines of research are presented.

Strategic management in Higher Education Institutions

Traditional strategic models and tools such as Porter's Five Forces, BCG growth-share matrix, SWAT, stakeholder analysis, scenario planning, and Strategic group maps carry out the strategic planning and management process analytically and rationally based on deductive and inductive processes leading to organization and planning. However, "moving beyond traditional strategic management approaches, joint inquiry through design thinking techniques has emerged as a valuable approach in strategy making" (Avdiji *et al.*, 2020: 696). Unlike traditional tools, visual inquiry tools develop a joint process where alternative hypotheses are explored. These tools have a creative and iterative design based on abduction and invention and in design thinking techniques. They work well with ambiguity and uncertainty, are mainly visual, and are based on sketching and prototyping, intensive observation and wondering, and challenging stereotypical perception (Avdiji *et al.*, 2020). In the university context, design thinking approaches and business modeling tools such as business model environmental maps, business model canvas, and value proposition design canvas are emerging (Dahlan *et al.*, 2020). Of these, we will focus on BMC, One of the first and best-known visual inquiry tools that have transformed business modeling by providing a design space framed by nine building blocks.

BMC of Osterwalder and Pigneur (2010) is a holistic, visual, simple, dynamic, participative, unbureaucratic, intuitively understandable, and practical tool for the design of the logic of a firm. Nowadays, the BMC is the most commonly applied tool for business model design (MacBryde & Franco-Santos, 2016). It takes up the nine strategic building blocks for the value creation process transformation. It assigns them to the four most important areas of the company: offer, customers, infrastructure, and financial structure. The nine blocks are Customer Segments, Value Propositions, Customer Relationships, Distribution Channels, Revenue Streams, Key Activities, Key Resources, Key Partners, and Cost Structure.

Although there are precedents for using BMC in the context of HEIs, mainly it constitutes a tool that is taught for entrepreneurship courses in leading universities (Türko, 2016), it has been timidly used for the strategic management of universities, but either in a partial way or to achieve some specific strategic objectives. For example, Gaus and Raith (2013) developed a general BMC for entrepreneurial universities. Rytkonën and Nenonen (2014) strove to ascertain how BMC could contribute to university campus management. MacBryde and Franco-Santos (2016) defend the use of BMC for university strategic management proposing that departments and centers should be given free rein to design their own "sustainability model" by developing a more appropriate performance measurement system. Hadăr *et al.* (2016) used it for value propositions and growth strategy in the case of technology transfer centers for valorizing intellectual property rights. Gaus and Raith (2016) explain the design of BMC for public and private universities, considering,

respectively, students as resources or as customers. Mulyana *et al.* (2018) and Dahlan *et al.* (2020) have combined in the university context BMC with other strategic tools such as SWAT, Environmental Map, and Value Proposition Design Canvas. Others, such as Gomes *et al.* (2020), applied BMC in the context of the digital transformation of HEIs. Trunina *et al.* (2021) developed BMC in a university context for study programs. Jongbloed and Kottmann (2022) have applied to BMC for universities for value proposition analysis. Trevisan *et al.* (2022) used BMC for HEI eco-innovative strategies. Finally, Polat (2022) applied BMC in technoparks analysis. Al-Filali *et al.* (2024) applied it to develop a sustainable financial plan. All these studies highlight the usefulness of the tool due to its applicability to the achievement of different specific objectives, be it entrepreneurship, sustainability, or digitalization, always highlighting the importance of the value proposition defined by these institutions. However, the versatility of this tool for developing different and innovative business models in universities has not been highlighted.

The need to respond to different challenges, and to design different and tailored business models and therefore different value propositions highlights the opportunity of using BMC as a strategic tool that follows the principle of creating, delivering, and capturing value. The application of the BMC in the context of HEIs as a university strategic tool could enable a holistic, agile, and visual picture of their strategic processes to be generated. Also, BMC allows changes or adjustments, which occur very often in a university context, to be implemented easily and quickly. Finally, BMC is a tool characterized by a high degree of participation. With these antecedents, this article proposes Unicanvas as a practical and dynamic tool to address their strategic concerns from a unique holistic point of view.

Building Unicanvas

Origins

The definition of a business model is adopted herein, as stated by Osterwalder and Pigneur (2010), according to which it describes the rationale of how an organization creates, delivers, and captures value. BMC involves translating strategic management concerns, such as positioning and goals, into a visual model that deploys how businesses function. This framework enables the business structure and systems to be designed by conceptualizing an organization through three key aspects: how key components and functions are integrated to deliver value, how they are interrelated within the organization and across its supply chain and stakeholder networks, and how the organization generates value, or creates profit, through those interconnections. This visual tool classifies businesses' processes and internal activities into nine strategic and interlinked categories, each representing a building block.

1. The first block symbolizes the heart of any business model, which is that of customer segments.
2. The value proposition includes combining products and services that create value for customer segments.
3. Customer relationships explain the relationship the business wishes to develop with every customer group.
4. Channels describe the paths a company employs to reach its target customers in delivering its desired value proposition.
5. Revenue streams represent the income a company is reaching.
6. The sixth strategic block, key resources, reveals the most critical assets needed.
7. Key activities are the main tasks and actions that should be deployed.
8. The eighth block identifies the key partners in terms of stakeholders and associates.
9. Cost structure gathers the most critical operational expenses and costs.

Although presented sequentially, the definition of block contents for each business is an iterative process. Following the canvas philosophy, the process of fulfilling in the blocks is an iterative process, usually made with post-its where each one represents one idea defined with three or four words. The reflection and decisions taken in one block condition the next one, but at the same time, the reflection on the following blocks can lead to a reconsideration of the initial decision. Blocks are interrelated, meaning that defining the contents of one block affects the contents of others. This, in turn, may require redefining the contents of the preceding ones. The interrelationships of the blocks give it a dynamic character and make it a tool that allows for rapid changes.

Unicanvas

The different elements included in the Unicanvas tool are shown in Figure 1.

In the current context of HEIs, Unicanvas allows to establishment of potential scenarios when there are uncertainties associated with the process and to reflect on changes to be undertaken in a stratified manner. Universities could develop alternative Unicanvases to analyze different ideas, routes, or models to reach the agreed vision. Even more, several canvases allow us to analyze different possible business models, looking at their implications, or for different customer segments. Because the proposed blocks are easy to understand, with Unicanvas, the planning process is participatory, and the potential benefits can be integrated into the process. Taking into account these considerations, the process should be developed in the following stages.

First, the key beneficiary identification process precedes the other blocks and is the key to the whole process. This building block answers the question: For whom is value created? (Osterwalder & Pigneur, 2010). BMC calls this block customer segments, where firms sometimes separate between different segments, and between clients and users.

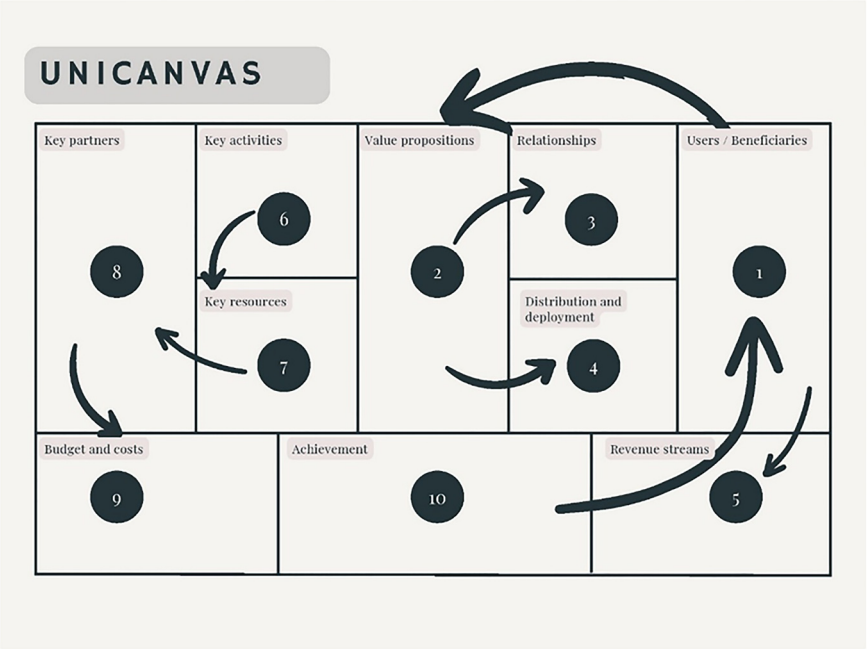

Figure 1. Unicanvas.

As in other sectors, and public and private institutions, the marketization of HEIs implies that universities need to become more market-oriented and include a customer orientation in their strategic planning (Bunce *et al.*, 2017; Guilbault, 2016). This block is key, because as Gaus and Raith (2016:199) state, "the driving force behind sustainable value creation is given by the customer segment(s) responsible for financing the university". The problem is to identify who are considered the beneficiaries of HEIs. First, because there is an open debate on the role of students. Second, because of the role of universities in the quintuple helix model and the new challenges they face, the number of actors to which universities can add value has expanded, both economically and socially (Mark, 2013). The first issue, the role of students has been approached differently in public and private universities (Gaus & Raith, 2016). Gaus and Raith (2013) indicate that it is mainly in private universities where students are viewed as key customers and are offered expert knowledge and a job-qualifying degree as a means of value. In the case of public universities, students can be seen "as (human) resources which are transformed by the education (production) process into qualified professional and, thus, also marketable personnel" (Gaus & Raith, 2016: 185). Despite this focus on the student as a resource, many assume that even in public universities students are clients because students have a customer's perception and claim the rights observed in the everyday marketplace. Thus, the British government has defined students as customers (Bunce *et al.*, 2017). And there are authors, as Mark (2013), who argue that universities must continue adopting the student-customer paradigm to increase the quality of their education, the accessibility to the faculty, and the improvement of the efficiency of their processes, opening an interesting debate.

The second issue, HEIs, like other enterprises, have multiple customers and beneficiaries (Guilbault, 2016), which have been incorporated mainly because of the new roles assumed by fifth-generation universities and the need to generate economic and social value in a challenging environment. Nowadays, the value created by universities is much broader, and the impact of universities on innovation and regional development means that the number of users and beneficiaries is ever-increasing. Gaus and Raith (2013; 2016) point out, as beneficiaries, different groups, including firms, start-ups, research institutions, the government (as an employer), the research community, innovative firms, R&D units, and innovative customers. According to Audretsch and Belitski (2021), the roles of all university stakeholders, including university researchers, students, managers, industry, government, venture capitalists, and science park agents could be identified separately.

The needs and concerns of these potential customers/beneficiaries may diverge significantly, becoming complex and problematic the strategic planning. Unicanvas allows keep in mind and to differentiate each of the beneficiaries based on identifying post-it colors or even making different canvases for each beneficiary. As an illustration of these ideas, and by considering diffuse differences between customer and beneficiary in this context, each university, public or private, should use this block to define its beneficiaries broadly. In this regard, we propose the following potential beneficiaries considering the different sources of value that the fifth-generation university can generate: Students, alumni, and lecturers, in the case of teaching; researchers, academicians, and research centers, for research; academic entrepreneurs, spin-offs and start-ups, external firms, employers, R&D centers, and the

government and its administrators, for transfer; and families, agencies, the general public, social groups, professional sectors and society to complete the quintuple helix model. From this wide variety of beneficiaries common to all universities, we propose that, in this block, each university should select only the key beneficiaries to develop the desired future of the institution. Those that will be the focus of its strategy, i.e., different universities could give greater emphasis to one of their missions, and therefore focus more on one type of beneficiary or even different universities may identify the same key beneficiaries, but there may be differences in the specific segment of that beneficiary on which they focus. For example, certain universities located in older populations may focus their strategy on attracting foreign students and these may be their key or try to find more students in the lifelong learning niche. The choice made will condition the decisions and choices of the other blocks.

Second, once the beneficiaries have been identified the next process is the value propositions, precisely targeted at those key beneficiaries. This block answers the questions: What value is offered? What problems are solved? Which needs are fulfilled? Which goods or services are provided? (Osterwalder & Pigneur, 2010). The core of BMC involves the proposition of the firm's value, which defines the kind of value supplied. In the recent context, HEIs provide complex offers since they arise from teaching, research, and technology transfer and in response to the society and natural environment. HEIs value generation is a mix of teaching/research/transfer or impact on the territory.

Hence, to make a difference, we propose that each university designs its value propositions as a unique combination of products and services that provide differential value to its key various beneficiaries. The traditional aim of universities is teaching, that is, to disseminate knowledge to students to shape them into first-class graduates who will be hired by public or private firms (Gaus & Raith, 2013). Depending on whether HEIs are funded by tuition fees or by public funding, different factors will be taken into account, such as qualifications leading to employment, valuable education and training opportunities, proximity, location, and physical structures. For other beneficiaries, such as alumni and lecturers, new value propositions can be designed, aimed at lifelong learning and employability. Furthermore, the new offer of micro-credentials, such as long-term continuing education, is an opportunity for a differentiated value proposition. Likewise, for researchers, academicians, and research centers, the proposition of the value of an HEI as a research institution is evaluated by its research infrastructure incentives but also by quality indicators (*e.g.*, number of citations, research projects, and contracts, and awards), range from publications to patents that document the outcomes of their innovative research. Related to the transfer mission, value is generated from the technology and innovation brought to the market as a result of the commercial exploitation of the research results generated within the University. Among others, spin-offs and start-up creation, R&D transfer, marketable products, services, patents, licenses, contracts and clustering, incubation, acceleration programs, networking opportunities, and Technology Transfer Office (TTO) services. Finally, universities currently must assume a crucial and central role in regional development, key for the government and society, by engaging in new activities to offer economic, social, and cultural contributions and legitimization and recognition. For example, by providing training and knowledge that solve problems in the lives of cities or specific groups (Mato de la Iglesia & Gutierrez-Solana, 2021). Innovation is also an important value for universities that can materialize in the development of products and services that prioritize the interests of society (Carayannis & Rakhmatullin, 2014), innovations that are concerned with sustainability (Machado *et al.,* 2018), and innovations aimed at solving the challenges of global warming and sustainable development.

Third, beneficiary relationships. This block answers the question: What is the relationship with each customer segment? (Osterwalder & Pigneur, 2010). identifying key beneficiary segments is complex for HEIs. Therefore, the complexity of its strategic management is accentuated when different segments require different relationships because one of the universities' main goals is to develop longstanding value from reciprocally valuable relationships with each beneficiary segment. According to Gaus and Raith (2013), HEIs that consider students as customers could strengthen their relationships through mentoring programs, student organizations, internships, and student programs. Likewise, for students, alumni, and lecturers HEIs develop personal assistance and orientation through assisting, guiding, and mentoring programs. For researchers, academicians, and research centers, HEIs use advising and informing programs and participate in and value co-creation. Internships, TTOs, business incubators, academic conferences, R+D networks, and external theses could be promoted for transfer activities (Gaus & Raith, 2016). Finally, creating and maintaining communities or ecosystems is key to completing the new mission of universities.

Therefore, each university can design its routines/protocols and describe how it establishes, maintains, and enhances contact with each beneficiary segment, i.e., it should establish activities to attract and maintain beneficiaries, *e.g.*, students, prestigious researchers, and communities. Consequently, strategic communication units are key in establishing and maintaining a good relationship with key beneficiaries and promoting the programs and services provided, *e.g.*, websites, social media, mailing, or fairs and exhibitions.

Fourth, how distribution and deployment channels are established. This block answers the question: Which are the main distribution channels? (Osterwalder & Pigneur, 2010). Value propositions of universities are delivered through different distribution channels to their beneficiaries (MacBryde & Franco-Santos, 2016). According to Gaus and Raith (2013; 2016), universities must develop job platforms, and courses, seminars, journals, publishers, calls for proposals, start-ups, academic spin-offs, and transfer units. Gaus and Raith (2016:184) indicated that "value distribution by the market-oriented university addresses a new customer segment with which the university can generate monetary revenues that change its income structure quantitatively as well as qualitatively"

In 2016, Steve Blank created Mission Model Canvas, an alternative to the BMC for military units. This variant proposes relabelling this block as deployment instead of distribution. Following his arguments, in the business world, we should ask: What type of distribution channel do we choose to deliver the product/service from our company to the customer segments? However, for the US Department of Defense, Blank (2016) proposes: How can we deploy the product/service for widespread use among people who need it? What channels can we use, and how can we communicate our value proposition to our beneficiaries? In this direction, it is necessary to define some key aspects, such as establishing the message distribution channels, outlining a promotion plan, or identifying the customer segment involved in the action.

For universities, this block involves getting in touch with their beneficiaries, delivering their value proposition, and creating the beneficiary experience (Osterwalder & Pigneur, 2010). The choice of appropriate channels for each beneficiary segment and the effective use of channels deliver and raise awareness of the services provided. each university should design its distribution and deployment channels and describe the service distribution and communication channels needed to present its value to its beneficiaries. Depending on the chosen key beneficiaries, some channels will be more strategic than others. Examples of channels are educational programs and events organized by HEIs or in which they participate, such as training courses, face-to-face and online classes, seminars, conferences, meetings, competitions, business conferences, networking and cultural events, intranet tools, e-learning, instant messaging, voice and video conferences, meetings, seminars, conferences and congresses, hackathons, document collaboration tools, task management tools, networking events, popular books, audiovisual exhibitions, apps, brochures, blogs, shows or media. Not all universities should give the same importance to all channels.

The fifth block, revenue streams, answers the question: Which values are being paid for? How are payments made? What are the relative shares of individual revenue streams? (Osterwalder & Pigneur, 2010). This block describes the available sources of funding, the budget, and the financial set-up needed to deliver the value proposition.

Traditionally, public universities have been dependent on public funding from governments and their main objective has not been to generate income. As Gaus and Raith (2016) state, a public university model, that is fully funded by the government, is not the same as a private university without government funding. However, in the current context, with reliance on tuition fees, inflation, higher prices, inadequate facilities, increasingly acute funding problems, political conflicts, The growing cost of the system, and facing some trends such as strong competition or demographic change, not only private but also public universities need to generate new sources of income and diversify revenues streams (Al-Filali *et al.*, 2024). This has forced developed countries to change their public university incomes, which were initially dependent only on public financial support. In conclusion, Public universities are also encouraged to find new sources of revenue through activities that place them in the knowledge-based economy.

In this respect, Mulyana *et al.* (2018) identified a business model development strategy for Padjadjaran University, to alter their general university management to be more creative in finding other revenue streams to maintain their sustainability. As Gaus and Raith (2013) argue, each university should indicate various sources of income, with different percentage weights, not only in the form of student fees, research grants, and public government funds but also as transfer income, such as equity stakes, patent sales, licensing and contract income, service income and product sales. In their literature review, Al-Filali *et al.* (2024) identify traditional sources of income as tuition fees, fees, and government funding, and others as research consultancy and industrial training, building rentals, laboratory services, scientific consultancy, research grants, endowments, housing fees, contracts, ancillary services, and philanthropy. Consequently, we propose that each university should indicate its strategic pathways to financial flows and the sustainability of its model. Each HEI could establish its revenue streams from rental fees (conference rooms, land, university residences, and residence hall), property management, and fees of services.

In sixth place, key activities should be defined. This block answers the question: Which activities for value creation are required? (Osterwalder & Pigneur, 2010). According to Gaus and Raith (2013), universities could develop key activities, such as teaching, research, transfer, proactive market participation, and product development. Recently, university challenges have contributed to the deployment of new activities, such as social responsibility, sustainability, entrepreneurship, and cultural and regional development.

Considering the contents of prior building blocks, each university should describe how its key activities are organized by providing the initiatives required to generate value for its beneficiaries/users. Consequently, Unicanvas could consider key activities such as administration, property management, facilities management, corporate communication, marketing and networking, entrepreneur support, technologies assisting, incubation programs, industry-university cooperation, contracts, IPR licensing, and cultural and dissemination activities. the selection carried out in the previous blocks determines the key activities. For example, a university that has chosen to internationalize its students through agreements with international universities should prioritize the establishment of agreements or one that chooses to become a lifelong university may prioritize e-learning.

Seven, key resources answer the question: Which resources are required for value creation? (Osterwalder & Pigneur, 2010). Various key resources for value creation, such as teaching staff, students as input, senior and junior scientists, a complete research infrastructure, research findings, researchers, and

transfer experts, can be found. These resources are supported by the university infrastructure and administration, technological support, science parks, academic and business networks, university incubators, and efficient TTOs (Gaus & Raith, 2013).

We also suggest that universities describe their critical resources, whether physical or intangible, to offer value to their beneficiaries. Human resources, talent, knowledge, technological resources (laboratories or equipment), financial resources, and credibility are all essential for universities. But also, key properties, financial resources, management competencies, and even image and reputation. Depending on its value proposition, some resources will be more relevant than others. For example, for a university that wants to reach a dispersed territory, its key resources will be different if the teaching is face-to-face or online. The resource and activities blocks need to ensure the viability of the model in the digital era, developing digital platforms, talent, cyber-security, and lean management.

Eight, key partnerships answer the question: Who are the most important partners for value creation? (Osterwalder & Pigneur, 2010). Value creation also requires the support of a national and international network of associates to produce and deliver this value. According to Gaus and Raith (2013), Stolze (2021), and Audretsch and Belitski (2021), partners could include not only teaching staff, firms, public institutions, and researchers from other universities or research centers but also business incubators, scientific parks, venture capitalists, business angels, technology transfer services, entrepreneurship centers services, private and not-for-profit firms and organizations, and, of course, alumni. In this regard, Unicanvas proposes that universities require the establishment of long-term and closer relationships with partners from different contexts.

HEIs should describe their network of cooperation agreements that seek to deliver higher values and could include other potential partnerships. Unicanvas could help by identifying current partnerships and disclosing potential external clients for future contacts. Other universities, research institutions, government institutions, public and private agencies, local government, cluster, and organized industrial areas, chambers of commerce, business associations, and technoparks should be considered. For example, if we have chosen dual programs as a key strategy, one of our key partnerships should be companies and institutions that offer work experiences and internships.

Nine, budget and cost structure. This block answers the questions: Which are the most important expenditures? Which activities/resources create the highest costs? (Osterwalder & Pigneur, 2010). The strategic plan includes the final costs derived from its structure and means involved in the operation of the model. In this respect, Gaus and Raith (2013) describe the personnel expenses (such as salaries of academic and administrative personnel) and the infrastructure and administration costs. Cost is a common major concern affecting all universities. HEIs deploy programs to reduce bureaucratization, optimize resources, promote ROI-driven culture, back office outsourcing, and cost efficiency (Dahlan *et al.*, 2020). Furthermore, in addition to financial costs, ecological and social costs of universities should be included.

Similarly, the mission model canvas proposes that organizational budgets should match the cost structure. In this respect, each solution needs to be evaluated based on the budget of the required solution (Blank, 2016). To depict these arguments, universities need to identify the main costs associated with this model, including financial, environmental, and social impacts, as well as their budget. Consequently, each university could consider initial, maintenance, and operational costs.

Finally, achievement block. To the strategic building blocks of BMC, we propose to add a block in the Unicanvas. In his mission model canvas, Blank (2016) argued that the revenue streams block makes no sense in this setting and relabelled the previous block as mission achievement/success. Blank defines achievement as the global value created for the sum of all of the beneficiaries/the greater good, which can be measured in a variety of ways, but all deliver value to the end beneficiary. We propose that this new block can be more suitable for collecting data for strategic planning at universities.

In the university context, mainly in public HEIS, the term ‘business’ or ‘revenue streams’ can be questionable as the overall mission because the majority of universities do not involve making a profit, as argued by MacBryde and Franco-Santos (2016). The way to capture value can come through other ways such as reputational benefit. Gaus and Raith (2013) note that students also generate a reputational benefit (non-monetary). These authors highlight that in addition to revenues, students and their insertion into the labor market generate a reputational benefit for universities; similarly, reputation can be increased through the impact of research and its influence on research rankings, journal publications/editorships, and the number of patents o the image that the university projects in its surroundings through contracts, R&D transfer, spin-offs or cultural events. All these achievements will undoubtedly have an impact on the revenue stream block for those universities that are well-positioned in these rankings. Thus, Vidal and Ferreira (2020) point out that the reputation gained from the rankings can influence the income obtained by the universities, through enrolments or contracts. For small universities that do not normally rank highly, this effect is not relevant.

Furthermore, universities can also have an impact on society by making it more educated, as Mato de la Iglesia and Gutierrez-Solana (2021) argue. According to these authors, some of these effects are related to the tractive function in the territory or within the university community, to the consolidation of the university’s public image, as well as other types of impacts related, for example, to the improvement in the processes of accessibility to academic and university knowledge for disadvantaged groups or to cooperation for

development and the improvement of opportunities in socially disadvantaged communities. Within this block, measures of social achievements such as inclusion, equity, equality, development cooperation, social responsibility, culture, scientific dissemination, and professional dissemination could be included. For example, its impact on variables related to the progress of culture, science, and the democratic state, its impact on development aligned with the interests of society, or its impact on the innovative and sustainable development of the territory, or the productive sector.

This added block therefore explicitly includes non-monetary benefits or revenue streams produced in all universities. in the Unicanvas model, we propose that each university could have its own 'achievement block' depending on its business model and approaches derived from its vision. In response to the new challenges facing all types of public and private universities today, any university must pursue both types of benefits (monetary and non-monetary) to a greater or lesser extent, and the cohesion of the latter two blocks in Univanvas makes it possible to expressly take them into account in the reflections and innovations of university business models

Conclusions

HEIs are facing significant challenges that require their business models to be designed with more agile, visual practices, intuitive and dynamic, and less bureaucratic and static tools. Traditional strategic models and tools, criticized for their static and isomorphic nature, need to evolve towards models focused on creating, delivering, and capturing value, such as BMC. Universities need innovative strategic business models that continuously fit with relevant stakeholders, and need innovative and dynamic tools in meeting their changing requirements.

The paper's main contribution is that Unicanvas provides a starting point for the consideration, discussion, and transformation of the logic of strategic management in HEIs and how it should be delivered and captured. Unicanvas could facilitate the distribution of strategic management knowledge (and its key drivers), enhance the understanding of competitive variables, and improve activity choices, resource allocation, and decision-making.

Encouraging the participation of the different actors involved in the process, and accompanied by other strategic tools, Unicanvas could facilitate the integration of the debate of the different stakeholders involved in the reflection. Strategic planning is normally considered the main element, but not the essence, of strategic management, which instead uses several phases considered outside of the realm of planning (in the strictest sense of the term) that are related instead to resource management, the implementation of activities and processes, and control and evaluation. Unicanvas helps the definition of key performance indicators, as it facilitates their evolution to the Balanced Score Card (Sánchez Vázquez *et al.*, 2016). Furthermore, Unicanvas simplifies the implementation of the strategy, defining key activities, resources, allies, and costs, addressing one of the main problems for strategic management, especially in universities, where strategic plans are often established for four or five years that are neither developed nor followed up.

Some theoretical implications can be derived from our proposal. First, Unicanvas, specifically the identification of the beneficiaries' segment, could enrich the focus of the Stakeholders Theory by better identifying beneficiaries and key partnerships blocks through the process of mutual value exchange beyond the process of resource transaction (Falqueto *et al.*, 2020; Freudenreich *et al.*, 2020; Miller *et al.*, 2014; Polat, 2022; Stolze, 2021), considering the ecosystem and actively managing the HEIs'transformation process (Stolze, 2021). Second, blocks of key partners, resources, and activities could be underpinned by the Resource-based View. This theoretical approach would help to classify the main value-generating resources of HEIs. Third, Network Theory could shed light on identifying the relationship and key partnerships blocks. Finally, Institutional Theory (Fernández-Alles & Valle-Cabrera, 2006; Meyer & Rowan, 2012; North, 1990) with its formal and informal factors and their different pressures, should be taken into account in the design of Unicanvas. This theory emphasizes the role of institutions in economic development and has proved to be one of the most appropriate frameworks for the analysis of institutional factors (Guerrero-Cano *et al.* 2006; Guerrero-Cano, 2008). Institutional Theory could show that universities from the same institutional context will share some blocks. Likewise, different institutional contexts, and different endogenous and exogenous forces, would explain different strategic business models in universities. As Gupta *et al.* (2023) suggest, each country has different educational regimes and hierarchies, university fees, grants, and scholarships. As Stolze (2021) states, "higher education is highly regulated" and is strongly influenced by the changing context. This theory also could help to consider the entrepreneurial ecosystem that is currently so important for the new challenges of universities (Audretsch & Belitski, 2021).

This research has practical implications, encouraging administrators to develop visual thinking for business model innovation of HEIs. Unicanvas differs (Jalal & Murray, 2019) from the traditional strategic planning models and tools applied in most universities, which have been criticized and limited by their static nature, by their implementation problems due to the low participation of key agents in their development, and by their limited capacity to adapt to universities in different contexts and with different orientations. Unicanvas seeks to improve understanding of the particular characteristics of each university, enabling a holistic assessment of changes or proposals in successful models and is ideal for easily gathering key aspects of the model and communicating them, enabling a rapid answer to contingency factors and global disruptions. Unicanvas helps to formulate, design, and validate proposals before they are implemented, allowing prototyping and experimentation. Those responsible for university management should think in terms of value creation

and reflect in a particular way on each of the blocks of the Unicanvas, assuming that their institutions' roles are increasingly diverse, and the complexity of management is increasing.

This does not mean that it is the only tool to be used in a complex institution, such as HEIs. Despite its advantages, the BMC, and therefore the proposed tool Unicanvas, is not without its limitations (Coes, 2014). For example, although the unicanvas includes and enhances a reflection on customers/beneficiaries (stakeholders), or key resources, it does not provide a complete framework for analyzing the external and internal environment in detail. Complementary analyses are crucial to understanding how external trends and factors (legal, demographic, technological changes, etc.) or internal factors (inimitable resources, capabilities, etc.) can impact value generation, generating opportunities or sources of strategic uncertainties. To deepen the strategic analysis, it should be completed with, for example, a Stakeholder Analysis to help practitioners in examining the impact of multiple stakeholders' power, and influence on business model innovation (Miller *et al.*, 2014). This development provides a new perspective beyond the traditional cost/revenue model architecture. Likewise, PEST analysis or VRIO analysis identifies threats or opportunities, strengths, and weaknesses, but also the sources of strategic uncertainty to assess them and establish Scenario Planning to reduce the risks associated with such uncertainty. Other complementary tools can be casual mapping and we suggest, in line with MacBryde and Franco-Santos (2016), that using Unicanvas can help universities to develop more and better strategic performance measures.

Also, Unicanvas would have some implications in the HEI context for policymakers by allowing them to influence the design of an institutional framework to improve the functioning of universities and their value creation. Future research should also be oriented towards gathering further proposals for initiating the design of Unicanvas starting from the mission or value proposition of HEIs, and towards its empirical application to the specific case of a university or consortium of universities. Furthermore, future lines of research aimed at the practical application of unicanvas for concrete cases, explaining the design process, its dynamics of creation, and how the different blocks are completed.

Ethics and consent

Ethical approval and consent were not required.

Data availability

No data are associated with this article.

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Open Peer Review

Current Peer Review Status: ✔ ✔ ✔ ✔ ✔ ? ?

Version 3

Reviewer Report 23 January 2025

https://doi.org/10.21956/openreseurope.20657.r48972

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Edoardo Ongaro
The Open University, Milton Keynes, UK

The paper in its version 3 is very clear and makes the argument effectively. It provides a well focused contribution to the important topic/issue of the strategic management of HEIs. The successive revisions (from what I could understand of the process from reading here, as I am reviewing the paper first time) have clearly further sharpened the argument and the flow of the text, and the conclusion section clearly outlines limitations and areas for future research.

In formulating a few recommendations / areas for possible further revision, I am concentrating on the following points, which might possibly be discussed or at least acknowledged in the paper, should the authors agree. First, the approach - Unicanvas tool - outlined in the paper might seem to omit the dimensions of power and conflict: universities are arenas where different stakeholders (which are fully recognised and encompassed by the model proposed) may engage in relations which may be competitive or outright conflictual as well as collaborative. For example, managers/administrators, on one hand, and academics, on the other, may have different priorities, views, and indeed visions of what a university stands for - an aspect which may complicate the usage of the Unicanvas tool, and which could usefully be recognised to enable utilising it.

Indeed, and this relates to the second point (also acknowledged in a previous reviewer's report), HEIs operate in very different contexts (context being 'larger and deeper' than the organisational environment - e.g. - and with apologies for a self-citation - this is discussed in chapter 7 in Ferlie and Ongaro, 2022). This can have a higher order influence on decision-making (hence also strategy-making): for example, in some countries HEI administrators are mostly academics from within the institution who serve as administrators in elective roles, while in other countries they are 'professional managers' of the Higher education sector appointed by the board or similar organ, and many of them with a non-academic background. This can determine very different decision dynamics. Contextual influences may shape the very premises of strategy-making for a public service organisation (higher education is generally considered a public service, in which both public and private organisations, in terms of legal basis, partake). This is acknowledged by the paper where it says that HEIs in similar contexts may be similar in relation to certain blocks -

but this may go deeper that just resemblance and may require being considered more explicitly.

Third and final (and this too already referred to in previous reviewers' reports), universities are here assumed to be responsive to stakeholders demands, but what about the role of universities in fostering critical thinking and proposing new theories and frameworks to analyse reality? Responsiveness - as noted in the paper already - can entail isomorphism, but this may lead to HEIs missing out on an important part of their (traditional? Historical?) mission: to operate as pathmakers for new lines of thinking and inquiry. This point too might deserve being considered by the paper.

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Is the topic of the essay discussed accurately in the context of the current literature?
Yes

Is the work clearly and cogently presented?
Yes

Is the argument persuasive and supported by appropriate evidence?
Yes

Does the essay contribute to the cultural, historical, social understanding of the field?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Strategic management of public service organisation; public management; public administration

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 23 Jan 2025

Jose M. Sanchez

Dear Professor Ongaro, Thank you for your efforts to improve our Unicanvas proposal. The three points you mentioned are of great interest. As we have already mentioned to a previous reviewer, we will consider these proposals for improvement in works, that we are carrying out with empirical evidence, and which we hope will be published in international journals. First, we fully agree that we need to incorporate tensions, conflict, and power. This point is emerging in the empirical studies we are carrying out to analyse how the tool can

be used. I can tell you that, at least for the moment, this aspect does not complicate the use of the tool per se, but the filling in of the different boxes does generate tensions and discussions (perhaps necessary, in some cases, don't you think?).
Regarding the second point, it is necessary to adapt the tool to different contexts. This article is a first proposal, and we advocate that all tools should be adapted to each organisation, and not the other way around (as some consultants some>mes try to do ...some>mes).
Finally, we agree. We can never lose our freedom and stop being a meeting point for the generation of critical thinking. Perhaps we should explain better, in future works, that the strategic definition of an HEI should reflect its positioning and defend its role as a creator of thought.
We would like to reiterate our thanks for all your sugges>ons. Thank you very much!

Competing Interests: No competing interests were disclosed.

Reviewer Report 15 January 2025

https://doi.org/10.21956/openreseurope.20657.r48162

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Tommaso Minola
University of Bergamo, Bergamo, Italy

Specific Comments
Overall, the document has shown substantial improvement in terms of theoretical robustness, coherence, and clarity. Below, I provide a detailed evaluation of how my previous suggestions have been addressed in the updated version.
First Suggestion:
The inclusion of the recommended literature on entrepreneurial universities and business model innovation, as well as the additional references suggested by other reviewers, has significantly strengthened the theoretical arguments supporting the essay's contribution (i.e. limitations of existing strategic planning tools and the diverse stakeholders universities must address).
Second Suggestion:
I appreciate the clarification that the application of a hypothetical HEI using the Unicanvas framework is intended as further research. As another reviewer suggested, incorporating a case study that explores the challenges of implementing Unicanvas would add considerable value. Such a case study could serve as a valuable reference for HEI administrators to ensure the effective application of the tool.
Third Suggestion:
The expanded explanation of the "achievement block," supported by clear examples of potential measures and variables, has enhanced the section significantly. The discussion also effectively links the "achievement" to the "revenue stream" block, highlighting this feature as a key

differentiation of the Unicanvas proposal. Furthermore, the arguments for retaining the label “revenue streams” were convincing, particularly the reasoning that while it may raise questions for public universities, it remains a necessary component.

Fourth Recommendation:

The explanation of how Institutional Theory can be used along the Unicanvas tool is now better substantiated with citations and specific arguments, providing stronger support for this aspect of the essay.

General Observations:

I reviewed all comments from other reviewers and noted that, together with my suggestions, the authors have addressed most points in a thoughtful and effective manner. They have prioritized aligning and focusing the various HEI perspectives (i.e. quintuple helix), resulting in a more streamlined and compact Unicanvas proposal compared to earlier versions. This is remarkable, given the diverse perspectives offered by the reviewers.

Final Suggestions:

While the essay has improved significantly, I have two additional recommendations that could further strengthen the work:

1.**Include a Brief Description of the Development Process for Unicanvas:**

One of the reviewers suggested including a short explanation of the process followed to develop Unicanvas. While the authors provided this explanation in their response to the reviewer who asked for it, it is not currently included in the essay. Adding this description to the "Building Unicanvas" section, within the “Origins” subsection (page 3) could provide valuable context and enhance the credibility of the tool.

2.**Address Minor Typos:**

Throughout the document, there are some typographical errors, particularly involving inconsistent use of uppercase and lowercase letters after punctuation marks. Examples include:

- Page 3, fourth paragraph, the phrase beginning with “strategic plans.”
- Page 3, fourth paragraph, the phrase starting with “while means ….”

I recommend reviewing the entire document to correct such issues.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: N/A

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 20 December 2024

https://doi.org/10.21956/openreseurope.20657.r48217

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Bahtiar Mohamad
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The article introduces **Unicanvas**, a strategic management tool designed specifically for higher education institutions (HEIs). Building on established methodologies like the Business Model Canvas, the framework is tailored to address the unique needs and complexities of HEIs. The authors outline the origins of Unicanvas, its core components, and its potential applications in university management. Furthermore, the article situates Unicanvas within the broader context of strategic planning, entrepreneurial universities, and innovation models, emphasizing its relevance as a holistic tool for fostering institutional innovation, improving performance, and promoting sustainability.

Drawing from a diverse range of sources, including the Quintuple Helix model and sustainable business strategies, the article provides a robust theoretical foundation for Unicanvas. Key references on entrepreneurial universities and HEI strategic management are seamlessly integrated, supporting the framework's relevance. However, the discussion overlooks critical contemporary research on digital transformation and agile management in HEIs, particularly post-2021 studies. Incorporating these recent developments, including post-pandemic shifts and the digitalization of HEIs, would enhance the framework’s applicability and relevance. Additionally, exploring how Unicanvas complements or contrasts with emerging tools like HEInnovate could further strengthen the discussion.

The article follows a logical structure, moving from an introduction to the framework’s explanation, application, and conclusion. Visual aids, such as Figure 1, effectively support comprehension. However, the narrative occasionally assumes prior knowledge of strategic management concepts, potentially alienating readers less familiar with the field. Sections like the "Origins" of Unicanvas are overly descriptive and lack critical analysis. To address this, the authors could provide brief explanations of key concepts (e.g., Business Model Canvas, Quintuple Helix) and critically evaluate why existing frameworks fall short for HEIs, thereby highlighting Unicanvas's distinctive contributions.

Although Unicanvas is presented as a theoretically sound and practical tool, the argument is weakened by a lack of empirical validation. The claims rely heavily on theoretical connections, with limited evidence of its real-world impact. Including detailed case studies or pilot projects demonstrating Unicanvas’s implementation would significantly bolster its credibility. Quantitative or qualitative data illustrating its effectiveness in driving innovation or enhancing institutional performance would further substantiate the authors' claims.

By aligning Unicanvas with sustainability and societal goals, such as those outlined in the Quintuple Helix model, the article positions HEIs as critical agents of global change. However, the cultural dimension remains underexplored, particularly regarding how Unicanvas can be adapted to diverse institutional, cultural, or regional contexts. Providing examples of such adaptations and discussing the framework’s role in supporting equity, inclusivity, and cultural sustainability would enhance its impact.

Is the topic of the essay discussed accurately in the context of the current literature?

Yes

Is the work clearly and cogently presented?

Yes

Is the argument persuasive and supported by appropriate evidence?

Yes

Does the essay contribute to the cultural, historical, social understanding of the field?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Business and management

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 07 Jan 2025

Jose M. Sanchez

Thank you very much for your review. We have completed a detailed reading of all your comments and deeply appreciate your suggestions. Indeed, digital transformation is an aspect that we will consider in future work. Our university is facing this structural change. Regarding the HEInnovate tools, we are already using them in other lines of research, and it may be very interesting and timely to incorporate them in this one. We thank you for your comment, and in future works we will explain in more detail key concepts (e.g. Business Model Canvas, Quintuple Helix). Indeed, we are in the process of empirical validation. We have already done one case, but we want to expand the number of cases to capture the richness and diversity of universities that at first glance may seem similar, including the cultural dimension, as you suggest. Thanks ¡!

Competing Interests: No competing interests were disclosed.

Version 2

Reviewer Report 25 October 2024

https://doi.org/10.21956/openreseurope.19793.r44063

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Rafael Ventura
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The authors have satisfactorily addressed the suggestions I made in the first revision. The new version has corrected the weaknesses of the first one. The new version is significantly better than the first and addresses the main weaknesses of the first version.
I do appreciate the practical contributions of this work, congratulating the authors for their

contribution.
I highlight the usefulness of the results for decision-making in university management.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Business Model Innovation.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 18 October 2024

https://doi.org/10.21956/openreseurope.19793.r44067

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Ursula Weisenfeld
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The authors have implemented appropriate changes to the manuscript and have further developed Unicanvas as a useful tool for HEO to navigate complexity.

I beg to disagree with the conclusion: “universities must continue adopting the student-customer paradigm to increase the quality of their education” (Indeed, one might suggest that ‘students as customers’ decreases the quality of education – thus, I would phrase this more cautiously).

There are some formal aspects to be considered, such as some incorrect wording (for example “Unicanvas allows to establishment of potential scenarios”; (p.5) and some repetitions, such as “a tool that is taught for entrepreneurship courses in the leading universities (Tuŕko, 2016), BMC has been timidly used, but either in a partial way or to achieve some specific strategic objectives” (p. 4 and repeated on p. 5)

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: innovation and change

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 19 Oct 2024

Jose M. Sanchez

Thank you very much, professor Weisenfeld, we will incorporate your comments in the next

version. Thank you very much for your work and help.

Competing Interests: No competing interests were disclosed.

Reviewer Report 10 October 2024

https://doi.org/10.21956/openreseurope.19793.r44066

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Jasmina Berbegal-Mirabent
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I appreciate the authors' effort in improving their manuscript in response to the comments raised by the reviewers. The revised version shows a significant improvement, demonstrating a more robust and comprehensive approach. I have no further comments or suggestions. Congratulations on this interesting and well-developed piece of work.

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Higher education

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Version 1

Reviewer Report 18 June 2024

https://doi.org/10.21956/openreseurope.18624.r40155

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Jasmina Berbegal-Mirabent
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This paper presents a promising approach by adapting the Business Model Canvas (BMC) to the context of Higher Education Institutions (HEIs). This idea is both innovative and thought-provoking, although it risks controversy if not properly explained and if the university is overly conceptualized as a business entity. I encourage the authors to support their proposal with studies that conceptualize the university as an institution with multiple objectives. Therefore, one-size-fits-all models are inappropriate. In this regard, developments such as Unicanvas can help universities customise their strategies according to their objectives, providing flexibility based on current needs and requirements. While the current arguments in the introduction lean towards this direction, some strong claims should be better supported with recent references that reinforce this perspective.

Detailed comments:

1) Strategic planning of HEIs: Considering that this paper is situated within the field of strategy, I believe it would be greatly enhanced by including a dedicated section that reviews existing approaches to strategic planning in Higher Education Institutions (HEIs) and their respective shortcomings. Such a section would not only strengthen the theoretical foundation of the paper but also articulate the gaps that the proposed model aims to fill.

2) Introduction - Second paragraph: This paragraph discusses the limitations of current strategic planning models. The ideas presented are relevant but lack support from the literature. Please provide adequate references to illustrate the identified shortcomings. Referencing key studies that critique traditional strategic planning models in HEIs will strengthen the argument and provide a solid foundation for the proposed adaptation of the BMC.

3) Introduction - Fourth paragraph: Several studies that have used or adapted the BMC in the specific context of HEIs are mentioned. However, there is no detail on how the model was adapted or the challenges encountered. Later in the second section of the paper, a review is presented, but it is limited to how the BMC was applied, not on its usefulness or the challenges faced. Providing such an analysis can help highlight which approaches were effective and which were not, allowing the new proposal to build on the experiences of existing works.

4) Section “Origins”: The sentence “BMC is a conceptual tool that many scholars and practitioners have widely adopted” might be unnecessary in this section. It would be more effective if moved to the first mention of the BMC and its uses, providing an early context for its widespread acceptance and application.

5) Heading “Unicanvas”: The heading “Unicanvas” on page 4 should be treated as a subheading under the section “Building Unicanvas”.

6) Description of the building blocks: The paper does not describe the process used to develop the 10 building blocks included in the Unicanvas proposal. Who was involved in defining these blocks (e.g., panel of experts)? What process was followed? Although the paper is classified as an “essay,” some systematic approach must have been undertaken. Providing details on this process will lend credibility to the proposal and clarify the rationale behind the selected building blocks.

7) University missions: At the beginning of the paper, the authors refer to the four missions of the university (teaching, research, technology transfer). Later, on page 6, they refer to HEIs in the

context of the quintuple helix, indicating they perform teaching, research, technology transfer, and respond to society and the natural environment. Similarly, on page 6 (3rd paragraph, first column), the university's missions are described as teaching, research, technology transfer, and a central role in regional development. The message is inconsistent and potentially misleading. While it is challenging to adhere strictly to one nomenclature or use seminal models (e.g., triple helix model), consistency is crucial. The authors should decide which references to use and maintain consistency throughout the document.

8) Terminology consistency: Sometimes the building blocks are referred to as "categories," which can be confusing. I recommend the authors stick to one term to avoid confusion.

Is the topic of the essay discussed accurately in the context of the current literature?
Yes

Is the work clearly and cogently presented?
Yes

Is the argument persuasive and supported by appropriate evidence?
Partly

Does the essay contribute to the cultural, historical, social understanding of the field?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Higher education

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 19 Jul 2024

Jose M. Sanchez

Dear Jasmina, we would like to thank you for your kind comments and remarks, which were very helpful in strengthening our paper. Below we respond to the detailed suggestions that you raised:
The abstract has been changed to reflect the reviewer's idea. On the other hand, in the introduction part, and to respond to this general comment of the reviewer, we have highlighted some trends in the context of HEIs that are making universities face different challenges and the creation of many types of value for which dynamic, flexible and innovative tools such as BMC are required. Some papers have been used to respond to this reviewer's comment. In this regard, some limitations of some classical strategic planning tools used in universities have been included. However, we have considered it appropriate not to create a new section dedicated to reviewing existing approaches to strategic planning in Higher Education Institutions, as this would distract too much attention from

the central objective of the paper, which is to apply BMC in the context of HEIs. In response to your suggestion, we have included adequate references to support the shortcomings outlined above. Page 3 In the second section, and following the reviewer's recommendation, we have explained the usefulness of this tool in each of the cases in which it has been applied, highlighting that the previous works had focused on specific objectives, but none of them highlighted the versatility of the tool for designing diverse and innovative business models. Page 5 According to your suggestion, the sentence has been moved. In response to your comment, we have changed one title to another. This essay proposes the strategic tool Unicanvas after an extensive development process, which started a few years ago in a summer course at the University of Cadiz. In this course, the participants, representatives of several Spanish universities, discussed a first draft. Subsequently, using previous research cited in the manuscript as a basis, a team of experts, authors, was established. The different authors have a wide and complementary experience in the development of BMC and BSC, strategic plans for both public and private entities and universities. Several drafts have been presented in various forums to receive feedback and improvements. The present proposal is the result of this process. In the section on future lines of research, we have indicated the opportunity to design canvases with real cases and in these works explain the process of designing and filling in the blocks according to the suggestions of Mulyana et al. (2018). The reference to the concepts of the entrepreneurial university, engaged university and the triple helix model has been eliminated from the text, since, as the reviewer rightly suggests, it detracted from the consistency of the text. The role of the university in Carayannis and Campbell's model of the quintuple helix has been emphasised throughout the work, highlighting the three main functions of the university, teaching, research and transfer, and the dual social and economic mission of universities in civil society and the natural environment. Both in the introduction and the rest of the sections, the reference to this model is coherent and no different terminology has been used. Thus, the development of each of the Unicanvas blocks, we refer to the missions of the universities within this model. Pages 2 and 3. We have homogenised the terminology, using blocks instead of categories, to avoid confusion.

Competing Interests: No competing interests were disclosed.

Reviewer Report 17 June 2024

https://doi.org/10.21956/openreseurope.18624.r40148

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Rafael Ventura
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[3] University of Malaga, Málaga, Spain

The research is focused on a very interesting topic, addressing a challenge that universities are currently facing . Strategic management in Higher Education Institutions (HEIs) is crucial due to the dynamic and complex nature of their operational environment. HEIs face multiple challenges, including demographic shifts, technological advancements, reduced public funding, and increased competition, which necessitate a more agile and responsive strategic approach.

The research address alternatives to the traditional static strategic planning models, often criticized for their inflexibility and top-down approach, that are becoming obsolete according to the evolving demands of HEIs.

Effective strategic management helps universities align their resources and capabilities with their long-term objectives, ensuring they can adapt to external pressures while fulfilling their educational, research, and societal roles.
In this vein, in a right way, is proposed an adapted version of Business Model Canvas (BMC), a dynamic tool widely used for business model innovation. It is designed to provide an intuitive, participative, and flexible framework that helps organizations conceptualize, articulate, and communicate their business model. Consequently, the paper could include references to Business Model Innovation (BMI) specifically within the university context. BMI involves the continuous adaptation and transformation of business models to create new value and competitive advantage. In the case of universities, this means developing innovative educational programs, research initiatives, and community engagement activities that respond to evolving societal needs.

BMC’s simplicity and adaptability make it an effective tool for strategic management. It facilitates a comprehensive understanding of the university’s value creation processes and allows for continuous improvement and alignment of strategies with institutional goals and stakeholder expectations. In the context of university strategic management, it could be appropriate to specify the aspects in which the BMC is most useful and recognize the need to complement it with other tools to comprehensively address the complexity of the higher education environment. The following areas highlight the need for such complementarities: Internal and External Analysis; Performance Measurement and Evaluation; Scenario Planning; Scenario planning; and Stakeholder Analysis.

The proposed adaptation of BMC to Unicanvas adds an 'Achievement' block, reflecting the specific non-monetary outcomes and broader impacts relevant to universities, such as reputation, societal contributions, and research outputs. The uniqueness of the university could inspire a version more aligned with the characteristics of universities. In this sense, unicanvas could include more original elements that differentiate the tool from BMC. Additionally, Unicanvas could be distinguished from other university management tools, highlighting its positioning in terms of the functionality it covers.

Interesting work that could be improved with further adaptation of the tool to the uniqueness of the university.

Is the topic of the essay discussed accurately in the context of the current literature?

Yes

Is the work clearly and cogently presented?

Yes

Is the argument persuasive and supported by appropriate evidence?
Partly

Does the essay contribute to the cultural, historical, social understanding of the field?
Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Business Model Innovation.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 19 Jul 2024

Jose M. Sanchez

Dear Rafael, we would like to thank you for your kind comments and remarks, which were very helpful in strengthening our manuscript. Below we respond to the detailed suggestions that you raised:
Your suggestion to review the business model literature has been followed. Specifically, some articles have been included that explain how universities should design new business models in changing environments with a multitude of challenges. Likewise, your suggestion has been taken into account by including in the objective, in the development of the blocks, and the conclusions, that unicanvas allows universities to dynamically and holistically propose and evaluate innovations to create and distribute value in response to current challenges. By enabling the participation of stakeholders to formulate, design, and validate the business concept before embarking on the more costly business plan development and implementation. Pages 2, 3 and 4 In the conclusions, it has been acknowledged that Unicanvas, despite its advantages, is not without its limitations. Once some of these limitations have been listed, its application in combination with other tools such as those mentioned above has been proposed to capture the complexity of HEIs. Pages 14 and 15
We agree with your suggestion. Unicanvas could include more original elements that differentiate the tool from BMC. Furthermore, unicanvas could distinguish itself from other university management tools by highlighting its positioning in terms of the functionality it covers. The limitations and shortcomings of traditional strategic planning models that could be overcome using Unicanvas have been included in the conclusions, specifically in the practical implications of the article. We believe that we need some empirical studies to improve this tool, adapting it more to the uniqueness of each university.

Competing Interests: No competing interests were disclosed.

Reviewer Report 14 June 2024

https://doi.org/10.21956/openreseurope.18624.r40153

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The study offers a much needed concept of Unicanvas, that is a development of the Business Model Canvas towards the specific needs of higher education institutions. The authors indicate that Higher Education Institutions do not have clearly defined customers, as opposed to businesses. While students constitute one group of clients, other stakeholders such as start-ups or the wider society are also relevant. Therefore, the authors suggest that the original Business Model Canvas needs to be expanded to incorporate objectives important to all stakeholders. Accordingly, they propose a 10th element to the original BMC that is outcomes at multiple levels and relative to various stakeholders. The merit of this work is conciseness and strong grounding in the business model concept. It has a descriptive, but also performative potential impact.

Is the topic of the essay discussed accurately in the context of the current literature?
Yes

Is the work clearly and cogently presented?
Yes

Is the argument persuasive and supported by appropriate evidence?
Yes

Does the essay contribute to the cultural, historical, social understanding of the field?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Strategic management, interorganizational relationships, organizational resilience, antecedents-process-outcomes examination.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 11 June 2024

https://doi.org/10.21956/openreseurope.18624.r40150

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Tommaso Minola
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Specific comments

- **Is the topic of the essay discussed accurately in the context of the current literature?**

In general, yes, as it considers literature on strategic management, HEIs, and specifically on business models. However, it could be complemented and strengthened by adding literature on entrepreneurial universities such as:
(Audretsch et al., 2021).
(Guerrero, M et al.,2019).
(Stolze, A. et al.,2021).
On the other hand, regarding BM and BMC literature, the authors do an adequate job of collecting it, although the essay could benefit from including/citing more studies so as not to rely too heavily on the Gauss & Raith, 2013 article, which is used significantly throughout the document and is a conference proceeding. Here is an example from a quick search conducted on Google Scholar:
(Talukdar, M. R. I. et al.,2021).
(Amit, R. et al.,2020).

- **Is the work clearly and cogently presented?**

Yes, the essay is presented in an orderly and clear manner, first describing what the business model canvas is and its various applications. It then describes how the co-authors built the Unicanvas and each of the 10 dimensions that integrate it. For each dimension, a definition and practical examples that HEIs can choose to integrate into their own Unicanvas are presented.

- **Is the argument persuasive and supported by appropriate evidence?**

The argument is persuasive and although it is supported by appropriate evidence, I believe it could be strengthened. For example, by adding an example of a hypothetical HEI, perhaps a “generic” one from a region, and showing an Unicanvas with the dimensions filled in, followed by a description of the logic for filling it in that way.
Another possible improvement in the essay is to delve deeper into the explanation of the added dimension “achievement” and its interrelation with the “revenue stream” dimension, since although both are described, the examples offered are insufficient and somewhat confusing. This may hinder the correct application of the tool by HEI administrators. Furthermore, the “revenue streams” dimension could perhaps be renamed, considering the logic described where HEIs (at least public ones) are “Non for profit”.

To further strengthen the theoretical implications, I would suggest citing the authors of the mentioned theories (page 8) and delving a bit into the argument of Institutional theory. Specifically, describing and explaining why such theory is valuable considering the assumption provided “the universities from the same institutional context will share some blocks”.
Finally, also in page 8, I would suggest describing the deficiencies that have been pointed out in the BMC literature. I believe this could be valuable for HEI administrators when evaluating the use of the tool in their strategic management processes.

- **Does the essay contribute to the cultural, historical, social understanding of the field?**

The BMC has been used for several years now, being applied in a wide variety of organizations, including universities. However, I believe that with the examples offered, the essay contributes to the understanding of how to streamline strategic management in HEIs through the use of Unicanvas. Additionally, it promotes decision-making based on the value creation perspective, which is quite necessary in HEI management. Finally, this comprehensive perspective facilitates the identification of the various HEI stakeholders and their motivations and value exchanges.

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Is the topic of the essay discussed accurately in the context of the current literature?
Partly

Is the work clearly and cogently presented?
Yes

Is the argument persuasive and supported by appropriate evidence?
Partly

Does the essay contribute to the cultural, historical, social understanding of the field?
Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: N/A

We confirm that we have read this submission and believe that we have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however we have

significant reservations, as outlined above.

Reviewer Report 17 May 2024

https://doi.org/10.21956/openreseurope.18624.r40154

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Ursula Weisenfeld
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Review:
The authors explore and adapt the Business Model Canvas (BMC), a tool to manage and change business models, in the field of Higher Education (HE): they propose Unicanvas as a tool for strategic management in HE.
This is relevant because HE organisations (HEO) face an increasingly complex environment, owing to (amongst others) internationalization of the field, digitization in the areas of teaching and research, and digitalization in society.
The tool can help navigating the complexity by categorizing and linking aims and activities, thereby visualizing components and interrelations of a HE organization.
Thus, the authors' proposal to adapt the BMC to the field of HE is relevant and useful.
In the following I will address the authors' characterization of the field of HE and the specifics of the tool with the aim to make some suggestions.

The field of HE
Asking the question 'what is a university?' will lead to a variety of answers and while we have seen changes in the field from mainly 'organized anarchy with fluid participation' (Cohen et al 1972) to more business-like organizations, the field is quite heterogeneous.
You propose Unicanvas for "entrepreneurial universities in their quintuple helix model" (1).
Because of the tool's flexibility it can be applied to any university, thus I would not emphasize "entrepreneurial universities", nor the "quintuple helix model" (also because you don't explain the terms and don't make use of this specification in the article).
You state: "Universities are responsible for training students, generating knowledge from their research, and transferring it *to the market*" (italics added). I think the latter is too narrow – I suggest that the transfer relates more broadly to 'society'.
You assume the 'marketization' of HEOs and point to respective opportunities and the implication that universities should become more market- and customer-oriented (p. 4 and 5). However, this marketization and the question whether students are customers (rather than members) of a university are discussed critically by scholars (e.g. Gupta et al 2023, Molesworth et al 2009, Natale and Doran 2012, Parker 2014), which is worth mentioning.
Again, because of the tool's flexibility, it can be applied to any university (which is the beauty of the concept) and thus, I would not emphasize the special usefulness for market-oriented universities

(the latter could do with the original BMC).

The tool
Unicanvas consists of ten building blocks: nine blocks are adapted from the BMC and a tenth building block 'achievement' is added.
The idea of adapting the BMC to the field of HE is good because it might improve creating impact – I think you could be bolder in diverting from the original blocks to reflect the specifity of HE.
You could bundle (instead of adding) and rename blocks to reflect the specific nature of HE.
For example, students benefit from, but also contribute to the generation of knowledge.

Unicanvas could be a useful tool for HEO to navigate complexity. I suggest to adapt the tool more closely to the nature of an HE organization:
If a HEO is a market-oriented company, the original BMC would do. On the other end of the spectrum, if it is a public organization with the mission around knowledge creation and dissemination for the benefit of society, Unicanvas could be useful to address increased complexity and to improve impact.

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Is the topic of the essay discussed accurately in the context of the current literature?
Yes

Is the work clearly and cogently presented?
Yes

Is the argument persuasive and supported by appropriate evidence?
Partly

Does the essay contribute to the cultural, historical, social understanding of the field?

Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: innovation and change

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 19 Jul 2024

Jose M. Sanchez

Dear Ursula, we would like to thank you for your kind comments and remarks, which were very helpful in strengthening the paper. Below we respond to the detailed suggestions that you raised:
In response to your suggestion, with which we agree, the reference to the concepts of entrepreneurial universities has been removed from the text, since, as the reviewer suggests, these are concepts that are not developed in this manuscript, and would also limit the application of unicanvas to universities with this orientation. Precisely, one of the advantages of this tool is its versatility, which allows it to be applied to any university with any orientation, and to design tailored business models to achieve any value proposition. However, we have referred in the introduction to the quintuple helix model, where universities face their three traditional missions (teaching, research, and transfer) together with the contribution to the social and natural environment to contextualise the new ways of creating value for these institutions, the importance of developing business model innovation and to highlight that all these challenges require visual and dynamic tools such as the canvas. Pages 2 and 3 We have changed the sentence by extending the transfer process not only to the market but to the needs and demands of society as suggested by the reviewer. The consideration of the quintuple helix helps us to broaden the missions of the university. Pages 2 and 3. The articles suggested by the reviewer to reflect on the role of students in universities have been taken into account. In this sense, when analysing the "beneficiaries" block, we have reflected on the differences that Unicanvas proposes for private universities versus public universities, the former being market-oriented, and considering the student as the client, and the latter not necessarily, with the student being a resource rather than a client. After reviewing the literature, we have concluded that both public and private universities must be student-oriented, which in both cases is a key beneficiary. Page 7. We agree with the reviewer, and as pointed out in points 1 and 3, the versatility of the unicanvas tool, which can be applied to any university, has been highlighted in the paper. In this sense, we refer in the paper only to the marketisation of HEIs in the sense of broadening the beneficiaries of HEIs and to which universities can bring value. It is not necessarily market-oriented universities that should use Canvas for the design of their business models. Unicanvas incorporates four new features to BMC. First, the new name of the "customers/users" block has been changed to "beneficiaries". Second, we add “deployment” to the distribution channel block. Third, the budget is added to the cost structure block. Finally, the tenth block "achievement" has been included. However, as a future line of research, the design of the canvas in a practical way in real cases has been

considered, and at that time we will reflect on the union of blocks or renaming of blocks to design business models tailored to different value propositions. It has been highlighted in the paper that unicanvas is suitable for HEIs facing complex situations and challenges. We have also highlighted that unicanvas applies to all universities, public and private as suggested by Gaus and Reith (2016). Page 10 and 11

Competing Interests: No competing interests were disclosed.