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A Systematic Review of Banking Business Models with an Approach to Sustainable Development

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Abstract: Modern banks have shifted their function as purely administrative, economic and industrial entities into socio-political institutions that must be sensitive to the surrounding environment. This function has always been neglected. This study was conducted based on primary, secondary, and tertiary data and reviews the full text of 75 studies selected from more than 245 studies. The selected elected papers and studies addressed the following issues: (1) business models, (2) banking business models, (3) sustainability and sustainable development, and (4) business models adopting a sustainable development approach. Investigations on banking business models show that most studies have focused on the categorization of banking activities at the multi-bank level, and finally, using clustering techniques, have provided some general categorization for business models

Keywords: Business Model; Banking Business; Sustainable Development

1. Introduction

A business model is the fundamental economic logic of a company that illustrates how values are conveyed to customers (Voigt et al., 2017) and is formed at the same time when the company is established. However, the business model may be quite explicit or implicit, because it will be formed at the time of establishing the company when the design or architecture process to create and transfer values and business mechanisms are shaped (Teece, 2010). The business model also shows the rationale for creating an organization, how to create values in the organization, and displays the organization's outputs (Osterwalder & Pigneur, 2010). The key role of business models in the success and sustainability of the Iranian banking system in the face of international banking and domestic banking requirements is a significant issue because the banking system in Iran does not have a well-designed structure due to factors such as a traditional structure and dominant and uniform approaches to customers (Googerdchian et al., 2010). In this approach, the types of services offered to customers in all banks are the same. Non-customization of services is one of the important issues of the banking system. Some important issues are the nonpayment of commission for major processes and the profit margin on deposits and lending facilities and very low profitability and even in some cases the losses incurred by banks (Pour, Kharedar, & Zargari., 2014). One of the consequences of the current business model of the banking system in Iran is the high volume of outstanding claims (Hasheminejad et al., 2017). The volume of liquidity and the imbalance between deposits and facilities, the unnecessary focus on collecting deposits without financial analysis, and the disastrous competition for increasing banking interests, in addition to the economic consequences, are associated with environmental and social consequences that have not been yet taken into account. Business models with a sustainable development approach focus on economic issues as well as the social and environmental impacts of activities (Yip & Bocken, 2018). Banks' social responsibility affects business continuity and bank activities have long-term effects on the social and economic position of communities. Besides, concerns about global warming and climate change are also important. Paying attention to these issues brings costs to the banks, but this is a kind of investment due to the sensitivity and concerns of the community. The central bank as the main authority for dealing with such issues should urge all banks and financial and credit institutions to perform their economic, social, and environmental responsibilities in both banking investments and providing facilities to firms. In a sustainable business model, in addition to economic issues, the negative and positive environmental impacts on the organization, the effects of national and local associations and institutions, government, employees, culture, and social values are also taken into account. The main questions addressed in the present study are what are the components of the business model of organizations and banks? what are the relationships between the business model components?what are the effects of the main differentiating (economic, social, and environmental) factors in the business model?

2. Literature review

Table (1) presents the definitions of the business model from the perspective of different scholars.

Table 1. The definitions of the business model

Author(s)	Year	Definition	Type of definition
Miremadi	2016	The business idea is considered either an income model or an economic model.	Descriptive
Timmers	1998	The business model involves describing diverse players in the business and the potential benefits for diverse players in the business and organization.	Descriptive
Mahadevan	2000	The business model is a model for income flow and a basis for value chain design.	Functional

Author(s)	**Year**	**Definition**	**Type of definition**
Stewart & Qin	2000	The business model represents the mission, structure, processes, revenues, technology and logical framework of business in the organization for making profits.	Functional
Raphael & Zott	2001	The business model designs the content, structure, and governance of transactions in a way that leads to value creation through business operations.	Descriptive & functional
Rainer & Zimmerman	2001	The business model is defined as the mechanism for describing the mission, structure, processes, revenue, technology, and logical framework of business in the organization.	Descriptive
Chesbrough & Rosenbloom	2002	The business model is an innovative logic that incorporates the technical potential to realize the economic value of the company.	Functional
Campano & Pingor	2003	A business model is a kind of detailed conceptualization for executing the organizational strategy and acts as a basis for executing business processes.	Descriptive
Lim et al.	2004	A business model is a set of strategies for an organization that determines a company's revenue models, processes, and layouts.	Operational
Osterwalder & Pigneur	2010	Exploring how business model elements work and how these elements interact to achieve profit in the organization	Functional
Morris, Minet, & Jeffrey	2005	How a set of architecture and economic decision making variables relate to creating sustainable competitive advantage in specific markets	Descriptive & functional
Schaffer et al.	2005	The brininess model represents the logical layers and strategic choices of an institution for value creation.	Functional & operational
Anderson &	2005	A business model is a conceptual tool	Descriptive

Author(s)	Year	Definition	Type of definition
Pigo		that represents a set of elements and relationships between them. It allows the business logic of the enterprise to be expressed. It also describes the values and architecture of the institute's partner network to create a continuous revenue stream.	& operational
Callio et al.	2006	A business model is a tool that enables an organization to create value. Values are formed through the coordination of goods and services of different partners in the industry with customers, partners, competitors and the government in the value chain.	Functional
Anderson et al.	2006	The business model deals with transparency, the identity of industry players, and the relationships between them.	Descriptive
Hackers et al.	2006	The business model is a coherent effort to identify the company's core infrastructure to offer a common proposition to its consumers.	Descriptive
Rajala & Westerlund	2006	A business model is a way to create value for customers and how organizations turn opportunities into profits through elements, activities, and partnerships.	Functional
Rappa	2008	A business model is a way of organizing a business through which the company can generate revenue and stay sustainable. The business model refers to how to make money and how to fit into the value chain.	Functional
Lilian & Ikom Renu	2009	The business model is the rationale of how to create, transfer, and earn value in a company and network business patterns among network ecosystem stakeholders with variable partners.	Functional

Author(s)	Year	Definition	Type of definition
Teece	2010	The design or architecture of how to create transfer values and income generation mechanisms	Functional & operational
Offu & Tucci	2012	A business model generates customer value, revenue sources, and links between elements of the business model and how they interact.	
Susan & Davidson	2013	The business model is the expression of the rationale of the business model.	Functional
Alan Afou	2013	The business model is made up of four components working together to bring profits to the organization.	Operational
Alexander, Pigneur, & Tucci	2015	The business model deals with how to create, transfer, and gain value in a company and present network business models among stakeholders of the network ecosystem with changing partners.	Functional & operational
George & Snicks	2015	The logic of how to create, transfer, and gain value in a company and present network business models among stakeholders of the network ecosystem with changing partners	Functional
Jolink & Niesten	2015	The business model is about creating value by ecopreneurs.	Functional & operational
Voigt et al.	2017	The business model is the fundamental economic logic that represents how values are delivered to customers.	Descriptive & functional
Osterwalder & Pigneur	2010	The business model is the logic of creating an organization, how to create values in the organization, and shows, the organization's outputs. It shows the relationship between the key elements, how to transfer values within the organization, and how these elements and functions relate to each other and key stakeholders and the value chain of the organization.	Descriptive, Functional, & operational

In most of these definitions, there are four keywords indicating the function of the business model. The business model describes the key components, elements, processes, and functions of an organization. The purpose of a business model is to explain how to create value and convert it into revenue and profit for an organization. Table (2) presents the most important goals of business models from the perspective of different researchers.

Table 2. The goals of business models

Author(s)	**Year**	**The goal(s) of the business model**
Voigt et al.	2017	The transfer of values to customers
Teece	2010	Value creation, changing payments into profits, encouraging payment, income generation mechanisms
Osterwalder & Pigneur	2010	Value creation and profitability
Osterwalder, Pigneur, & Tucci	2005	Making a profit
Anderson & Pigo	2005	Creating a continuous revenue stream.
Alexander, Pigneur, & Tucci	2015	To create, transfer, and gain value
Peter Drucker	1954	To transfer values to customers
George & Snicks	2015	To create, transfer, and gain value in a company and present network business models among stakeholders of the network ecosystem
Timmers	1998	To develop the design and architecture of products, services, and information flow
Raphael & Zott	2001	Value creation through performing business operations
Chesbrough & Rosenbloom	2002	To realize the economic value of the company.
Morris, Minet, & Jeffrey	2005	To create sustainable competitive advantage in specific markets
Mahadevan	2000	Identification and valuation for the seller and the purchaser
Stewart & Qin	2000	To present a structure for revenues and costs with an approach to creating a revenue stream

Author(s)	Year	The goal(s) of the business model
Rainer & Zimmerman	2001	To create customer value, income sources, and links among the elements of the business model
Offu & Tucci	2012	To generates customer value, revenue sources, and links between elements of the business model and how they interact
Rappa	2008	To create sustainable revenues
Rajala & Westerlund	2006	To create value for customers and how organizations turn opportunities into profits
Callio et al.	2006	Value creation
Anderson et al.	2006	Sharing values
Hackers et al.	2006	To identify the company's core infrastructure to offer a common proposition to its consumers
Schaffer et al.	2005	Value creation
Lim et al.	2004	To determines a company's revenue models, processes, and layouts
Campano & Pingor	2003	A basis for executing business processes
Alan Afou	2013	To increase profitability
Parkh-Bacon	2016	To increase the interaction between the components and the organization's mission and strategies
Sommer	2012	Value creation
Alexander, Pigneur, & Tucci	2005	A roadmap for executing the strategy by developing the organizational structure, processes, and systems
Auge-Dickhut, Koye, & Liebetrau	2016	Pay attention to the fundamental difference between micro and private banking systems
Kobler et al.	2015	Introducing five business models for the future of the banking system
Sustainability Company	2014	Using value chain analysis for sustainability
Jolink & Niesten	2015	Creating value by ecopreneurs
Deloitte	2015	Defining eight business model based on Osterwalder's multi-sided platform
Hoover & Macchi	2017	Defining five banking business models
Bocken et al.	2014	Defining eight architectures for business models

Table (3) summarizes the studies on banking business models.

Table 3. Studies on banking business models

No.	Author(s) (Year)	Title	Objectives, method, & results
1	Themaat et al. (2013)	Designing a framework to design a business model for the bottom of the pyramid population	Objective: To explore the effect of banks' business model on credit supply. Method: Regression analysis Results: Monetary policy and macroeconomic conditions affect business models, but there is insufficient evidence to correlate it with credit supply.
2	Neill Stott et al. (2016	Business models in the business-to-business and business-to-consumer worlds: What can each world learn from the other?	Objective: To identify how academic research results are applied to the concepts of business models by managers by evaluating existing models. Method: Evaluation of 5 cases in the aviation and transportation industry Results: There is litter quantitative consensus on definitions and meaning of a business model among academics. And the concept of a business model is better defined within industries than in exploring the relationship between different industries.
3	Joyce & Paquin (2016)	The triple-layered business model canvas	Objective: Designing a tool for exploring business models based on sustainable innovation. Method: a Case study of Nestlé Nespresso Company, Results: The triple layered business model (the economic, environmental, and social layers).

No.	Author(s) (Year)	Title	Objectives, method, & results
4	Rudy Wonder et al. (2015)	Banking business model and performance: A long-term aspect	Objective: To investigate the effect of the banking business model on the performance and risk of a 500-case sample Method: a Factor analysis. Results: The findings of the study indicate that micro banking has a better performance in terms of profitability and sustainability. The study also suggests that new capital regulations are needed to support Basel 3.
5	Chen et al. (2014)	Rethinking the banking business model: Investigating the role of intangible assets	Objective: To present a new way to revise banking models with qualitative methods. Method: Database theory. Results: Designing a tool for developing banking business models and their theoretical models
6	Kobler et al. (2015)	Swiss banking business models of the future embarking to the new horizon	Objective: Introducing five future business models of the future banking system. Method: Qualitative. Results: Introducing the 5 business model for the future banking system

3. Method

This study tries to explore business models, especially banking business models, through a systematic review of the literature with a focus on research questions. This study tried to review all researches related to business models, components of business models, banking business models, sustainable business models, sustainable development, and sustainability using primary, secondary and tertiary data. The four key criteria for screening information in this study were the data and studies selected were selected based on the keywords and titles of the articles and research that were related to the issues raised in the research questions, the selected articles were published in English and Persian, the main focus was on articles published from 2010 to 2018, but the articles published since 1998 were included in the reviews, and the articles were searched using databases and search engines such as Elsevier, Scopus, Emerald Insight, Science Direct, Business Source, Research Gate, SciELO, JSTOR, Library Genesis, and Google Scholar. Boolean Search was used to find out the related articles in the databases and search engines. The keywords used in the search process were business models with banking, sustainable banking, and sustainable business models used both individually and together.

4. Findings

Fig. (1) shows the frequency of the reviewed articles by year.

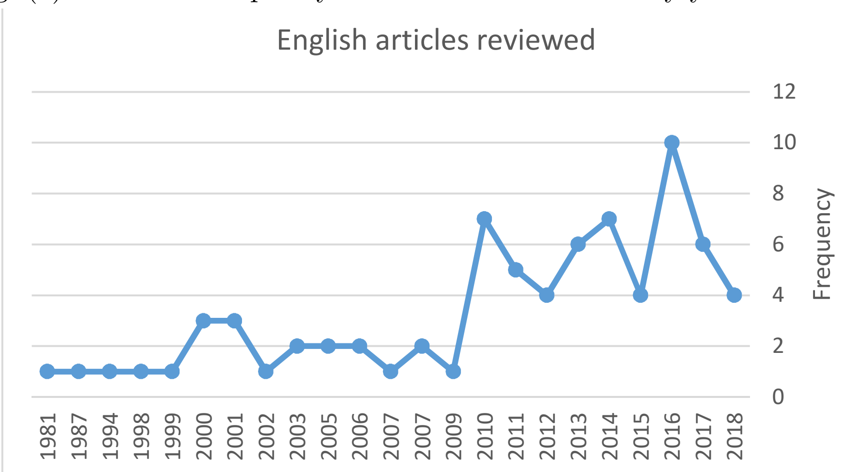

Fig. 1. The frequency of the reviewed articles by year of publication

Table 4 shows the components of business models from the perspective of different researchers.

Table 4. The components of business models

Author(s)	**Year**	**Infrastructural technology & management**	**Income & revenue sources**	**Products & services**	**Customer classification**	**Value propositions (value creation & retention)**	**Financial aspects**	**Business partners' network**	**Costs**	**Key resources & activities**	**Market**	**External contributors & suppliers**
Teece	2010	✓	✓		✓	✓						
Osterwalder & Pigneur	2010	✓		✓	✓		✓					
Osterwalder et al.	2005		✓		✓	✓		✓				
Peter Drucker	1954					✓						
George & Snicks	2015	✓										
Timmers	1998		✓									
Raphael & Zott	2001	✓										
Johnson et al.	2008		✓			✓				✓		
Rainer & Zimmerman	2001		✓									
Joyce & Paquin	2016	✓		✓	✓		✓					
Rappa	2008		✓			✓						
Rajala & Westerlund	2007		✓			✓						✓
Callio et al.	2006				✓	✓		✓				✓
Anderson et al.	2006					✓		✓				
Hackers et al.	2006	✓				✓						
Schaffer et al.	2005					✓						
Lim et al.	2004		✓					✓				
Alan Afou	2013		✓						✓	✓		
David & Stone	2005			✓	✓							✓
Parkh-Bacon	2016	✓					✓	✓				
Bacon's model	2016	✓					✓	✓				
Motley & Pederson	2002		✓	✓							✓	✓
Sommer	2012					✓	✓			✓		
Alexander et al.	2005		✓		✓	✓		✓	✓			
Auge-Dickhut & Koye	2016			✓								
Kobler et al.	2015			✓			✓					
Jolink & Niesten	2015					✓						
Deloitte	2015		✓		✓			✓	✓			
Hoover & Macchi	2017			✓							✓	
Bocken et al.	2014	✓		✓		✓						
Frequency		9	12	8	8	14	6	8	3	3	2	4

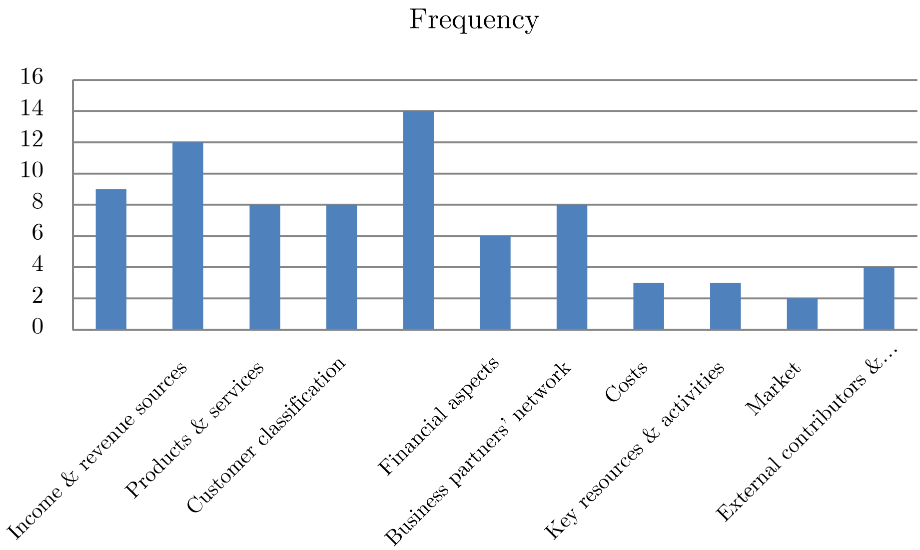

Fig. 2. The frequency of components of business models

As can be seen in Table 4 and Fig. (2), that most frequently found business components in the reviewed studies are Value propositions followed by Income and revenue sources. In contrast, the least frequently found business component is the Market. However, in all of the above models, the components of banking business models include income, service rates, customers, their classification, and other factors. According to the sustainable banking business model, the creation of sustainable values is explained in terms of sustainability parameters rather than simply originating from the mission and strategy of the organization (Ab & Miller, 2016).

Table 5. Comparing the components and focus of conventional and sustainable business models

Business model	Focus	Components	Author(s) (year)
Organizational business model	Value creation & income generation	Customer classification, customer relationship, communication channels, income	Osterwalder & Pigneur (2010)

Business model	Focus	Components	Author(s) (year)
		flows, key resources and activities, cost structure, & key partners	
Banking business model	Creating value and making money through the combination of assets, service prices, customers, communication structure, and revenues	Customer classification, customer relationship, communication channels, income flows, key resources and activities, cost structure, & key partners	Kobler et al. (2015)
		Key features, market focus, key income sources, key success indicators	Hoover & Macchi (2017)
Sustainable banking business model	Sustainable value creation, concurrent attention to income and environmental social components	Maximizing material and energy efficiency, replacing digital processes, community, and environmental responsiveness, sustainable financial products, etc.	Yip & Bocken (2018)
		Sustainable value chain, green marketing, and sales, the sustainability of operations, product innovation, new markets, etc.	Ab & Miller (2016)

5. Conclusions

One of the most important features of the banking and financial business model in the world as indicated in the literature is that all the components business models work consistently and purposefully to achieve the goals and strategies of the organization. Besides, various studies show that there is a very close relationship between strategy and business models, ultimately affecting organizational structures and business processes. For this reason, the alignment of key elements and activities in the business model is crucial and can create a very powerful synergy across the organization.

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