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Business model innovation through industry 4.0 and its future challenges



Challenges and requirements of the Industry 4.0

Challenges affecting traditional business model

- Networking and reduction of barriers
- Flexibility and personalization
- Individualized mass production
- Local production Low price
- Smart goods and services
- Fragmentation of the value chain
- Globalization and decentralization of production

Requirements to face digital transformation

- Standardization
- Work organization
- Availability of products
- New Business Models
- Know-how protections
- Availability of skilled workers
- Research investment
- Professional development
- Legal frameworks

Approaches affecting Business Models

A Service-oriented approach

A network-oriented approach

A user-driven approach

suggests that manufacturing firms should expand their role in the value chain by extending their products with services.

Suggests to expand traditional boundaries and creating new ways of offering value through ecosystems due to the integration of the value chain and interoperability.

suggests that companies should become more responsive to user-driven design and customer value-creation processes.

Digital Transformation in Manufacturing Companies



01

Internal and External Process Optimization

Enabling technologies are introduced to optimize value creation architecture, increasing efficiency and improving performance.



02

Customer Interface Improvement

The use of technologies such as Big Data, Cloud Computing, Augmented Reality, or Virtual Reality helps in creating new touchpoints and providing better customer experiences.



03

New Ecosystems and Value Networks

The proposed model involves a radical innovation of the Business Model by focusing on the core business and sharing uncertainty with other agents or acquiring new skills and resources through technology. This requires a shift from value chains to ecosystems and a radical change in many elements of the Business Model.



04

New Business Models: Smart products and services

This type of innovation proposes a completely new Business Model based on new technologies, such as Big Data, Cloud Computing, and Embedded Systems, which allow for the offering of innovative and smart goods and services. This disruptive innovation requires a change in almost all elements of the Business Model.



Current State and future challenges for the field



The current state of the "Business Model Innovation" literature

- It remains difficult to study due to inconsistencies in the conceptual framework of business models, which lacks a solid theoretical anchoring
- There is a strong growing demand for academic conferences and management workshops on the business model and business model innovation.
- This situation presents an exciting research opportunity for the research community.

Current perspectives on Business Model Innovation



By examining the driving forces behind business models, it has been derived that there are three primary motivations for researching business models

Explaining the Business

Running the Business

Developing the Business



Explaining the Business

The firm's reaction to the requirement of demonstrating the profitability of an existing or upcoming business stream, aimed at both external shareholders like investors, media, customers, and partners, as well as internal employees.

Research

Denicolai, Tidd, and Ramirez studied 310 European firms on how internal and external knowledge assets, including patents and copyrights, interacted with each other to impact sales growth.

Results provides an emphasis on the importance of a well-designed value creation architecture for the success of business model innovation and subsequent firm growth.

Running the Business

It compromises the operational roles assigned to business models. Addressing employees, managers and external partners likewise, a business model is understood to address operational aspects such as processes, linkages or structures

Research

Wei, Yang, Sun, and Gu's researched 176 Chinese firms and found that different business model designs are suited for either exploitative or exploratory innovation to enhance firm growth. Specifically, they discovered that business models focused on efficiency amplify the negative effects of exploitative innovation and reduce the positive effects of exploratory innovation.

This study emphasizes that a firm's choice to prioritize either exploratory or exploitative innovation pathways influences the success of their business model designs.

Developing the Business

This focuses on how the business model serves the strategic purpose, which means that it supports the management in the process of defining and creating the company's strategy.

Research

Dmitriev, Simmons, Truong, Palmer and Schneckenberg explore evidence derived from semistructured in-depth interviews and historical data of business modeling in 4 selected firms.

The study findings emphasizes the importance of reciprocity of activity and the complex everyday interactions that go into 'doing', 'imagining' and 'working out' business models.

Future Research Direction

- The effect of corporate culture on the internal adoption and implementation of business model innovation raises new questions for further investigation
- Questions regarding engaging communities to identify new business opportunities and the use of technology to facilitate stakeholder involvement in business model innovation.
- How firms can maintain a delicate balance between fostering openness and selectively disclosing new ideas and sensitive knowledge for innovation processes.



Conclusion

In conclusion, we assert in our presentation this special issue that the field of business model innovation is still in its early stages and presents many opportunities for scholars to explore in future studies. The topic is significant, the potential for advancement is vast, and the research field is deserving of further development

References:

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A dark blue background featuring a subtle, light blue grid pattern that slopes upwards from left to right. Overlaid on this grid are several large, semi-transparent circles with a gradient from orange at the top to pink at the bottom. The text 'Thank You' is centered in the upper-middle portion of the image.

Thank You