

Association for Information Systems

AIS Electronic Library (AISeL)

WHICEB 2019 Proceedings

Wuhan International Conference on e-Business

Summer 6-26-2019

Product Diversity and Firm Performance on O2O Platforms

Xing Wan

School of Business Administration, Nanjing University of Finance and Economics, Nanjing 210023, China,
wanxing@nufe.edu.cn

Qianwen Pan

School of Business Administration, Nanjing University of Finance and Economics, Nanjing 210023, China,
15150539070@163.com

Follow this and additional works at: <https://aisel.aisnet.org/whiceb2019>

Recommended Citation

Wan, Xing and Pan, Qianwen, "Product Diversity and Firm Performance on O2O Platforms" (2019).
WHICEB 2019 Proceedings. 1.
<https://aisel.aisnet.org/whiceb2019/1>

This material is brought to you by the Wuhan International Conference on e-Business at AIS Electronic Library (AISeL). It has been accepted for inclusion in WHICEB 2019 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Product Diversity and Firm Performance on O2O Platforms

Xing Wan^{1*}, Qianwen Pan¹

¹ School of Business Administration, Nanjing University of Finance and Economics,
Nanjing 210023, China

Abstract: This paper studies the decision of product diversity by firms on digital platforms, and the impact of the decisions on the performance of the firms. Specifically, we take the cinema as the unit of analysis, and study the influence of the diversity of movie scheduling on cinema performance in the context of O2O (online-to-offline) platforms. The results show that the diversity of movie scheduling has a significant negative impact on box office revenues and attendance. The ratio of consumers' adoption of O2O platforms significantly and negatively moderates the main effect. That is, the higher the online ratio is, the weaker the influence of movie-scheduling diversity on cinema performance. Implications of findings are discussed.

Keywords: O2O platforms, diversity, performance, long tail effect, superstar effect

1. RESEARCH QUESTION

The rise of digital platforms has changed the current pattern of economic growth and business competition, which creates and exchanges a lot of value by using technology to connect people, organizations and resources in an interactive ecosystem^[1]. In the context of the motion picture industry, O2O (online-to-offline) platforms use intelligent and complex software tools to link and match cinemas, movies and consumers, so that cinemas can timely learn the feedback, then scheduling and marketing movies more properly. On O2O platforms, the cinemas can meet the preferences of minority groups by exploiting the long tail effect of the market, or just concentrate on popular movies to give full play to the superstar effect of the market. It gives rise to our research questions: i) what's the impact of cinemas' decisions on product diversity on their performance; ii) what the impact of consumers' adoption of O2O platforms on the relationships between product diversity and cinemas' performance?

2. MAJOR RESEARCH FINDINGS

The growth of product diversity is regarded as an important feature of economic development. Anderson's (2006) research suggests that in the digital era, all niche markets (i.e., niche product demand markets) can be brought together to form a new and important market^[2].

Platform firms have achieved great success in the Internet era, with typical examples like Amazon, Google and Microsoft abroad to Taobao and Meituan in China. Alstynne, Parker (2016) analyzed the rise of platform economy, the network effect behind it and its subversive power to traditional enterprises and consumption patterns^[3]. A large number of scholars have studied the changes or impacts the Internet platforms have brought to product diversity and concentration. Some believe that the new search technology has changed the way people look for products and has created more accurate matches between them. So the large market supported by the Internet is more likely to support the success of firms engaged in niche products^[4].

Model 1a and Model 1b are used to test the effects of control variables on cinema performance, Model 2a and Model 2b are used to test the effects of the diversity of movie scheduling on cinema performance, Model 3a and Model 3b are used to test the effects of consumers' adoption of O2O platforms on cinema performance and Model 4a and Model 4b are used to test the moderating effect. Table 1 gives the results.

* Corresponding author. Email: wanxing@nufe.edu.cn (Xing Wan) , 15150539070@163.com (Qianwen Pan)

Table 1. Regress results on cinema's performance

Variables	Revenues				Attendance			
	Model 1a	Model 2a	Model 3a	Model 4a	Model 1b	Model 2b	Model 3b	Model 4b
Price	2.082*** (0.173)	1.999*** (0.155)	1.996*** (0.155)	2.033*** (0.148)	0.302*** (0.027)	0.283*** (0.024)	0.283*** (0.024)	0.288*** (0.023)
Density	-0.933* (0.525)	-1.649*** (0.545)	-1.593*** (0.544)	-1.640*** (0.538)	0.095 (0.128)	-0.0662 (0.128)	-0.068 (0.128)	-0.074 (0.128)
Age	1.279*** (0.173)	1.251*** (0.165)	1.253*** (0.165)	1.271*** (0.161)	0.278*** (0.039)	0.271*** (0.037)	0.271*** (0.038)	0.274*** (0.037)
Seats	0.027*** (0.001)	0.027*** (0.001)	0.028*** (0.001)	0.028*** (0.001)	0.008*** (0.000)	0.008*** (0.000)	0.008*** (0.000)	0.008*** (0.000)
Diversity		-13.156*** (1.922)	-13.316*** (1.940)	-15.032*** (1.853)		-2.970*** (0.393)	-2.965*** (0.397)	-3.191*** (0.376)
Onratio			-0.030 (0.025)	-0.047** (0.023)			0.001 (0.005)	-0.001 (0.005)
Diversity×Onratio				-0.251*** (0.068)				-0.033** (0.013)
Observations	1540	1540	1540	1540	1540	1540	1540	1540
R-squared	0.6875	0.7045	0.7050	0.7084	0.6538	0.6708	0.6708	0.6720

Notes: Values in parentheses are standard errors, *** 1% significance, ** 5% significance.

3. CONCLUSIONS

The empirical results show that product diversity has a significant and negative impact on theater's performance in the digital era. It demonstrates that digital platforms themselves are not sufficient conditions for the long tail effect, which relies on infinite expansion of temporal and spatial horizons. However, in the motion theater industry, brick-and-mortar theaters have to resolve demand uncertainty within a short period of time (usually four weeks in China). The interaction item has a significant and negative impact on theaters' performance. The higher the proportion of online box office revenues is, the weaker the influence of movie scheduling' diversity on theater performance. This paper argues that O2O platforms may weaken the negative impact of the diversity of movie scheduling owing to platform-facilitated low search costs and more convenient ticket purchasing on the demand side and data-driven scheduling on the supply side.

ACKNOWLEDGEMENT

This research was supported by the National Social Science Foundation of China (Grant NO.17BGL200), the Humanities and Social Science Project of Ministry of Education (Grand NO.15YJA630065), and Postgraduate Research & Practice Innovation of Jiangsu Province (Grand NO.KYCX18--1335).

REFERENCES

- [1] Tiwana, A. (2013). Platform Ecosystems: Aligning Architecture, Governance, and Strategy. Morgan Kaufmann Publishers Inc, 10.
- [2] Anderson, C. (2006). The long tail: Why the future of business is selling more for less. Hyperion, 24(3):274-276.
- [3] Parker, G. G., Van Alstyne, M., Choudary, S. P., & Foster, J. (2016). Platform revolution: How networked markets are transforming the economy and how to make them work for you. New York: WW Norton, 352.
- [4] Brynjolfsson, E., Hu, Y., & Smith, M. D. (2010). Research commentary-long tails vs. superstars: The effect of information technology on product variety and sales concentration patterns. Information Systems Research, 21(4), 736-747.