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Ting-Kun Liu, Jong-Rong Chen, Cliff C.J. Huang, Chih-Hai Yang

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## E-commerce, R&amp;D, and Productivity: Firm-Level Evidence from Taiwan

Ting-Kun Liu

Chaoyang University of Technology

[tkliu@cyut.edu.tw](mailto:tkliu@cyut.edu.tw)

Jong-Rong Chen,

National Central University

[jrchen@cc.ncu.edu.tw](mailto:jrchen@cc.ncu.edu.tw)

Cliff C.J. Huang

Vanderbilt University

[cliff.huang@vanderbilt.edu](mailto:cliff.huang@vanderbilt.edu)

Chih-Hai Yang\*

National Central University

[chyang@mgt.ncu.edu.tw](mailto:chyang@mgt.ncu.edu.tw)**Abstract**

This study investigates the impact of e-commerce and R&D on productivity, using a unique panel dataset obtained from Taiwanese manufacturing firms for the period from 1999-2002. We specifically consider the network externalities of e-commerce and employ the system generalized method of moment (GMM) technique to deal with the endogenous problem of e-commerce adoption. The empirical results show that both e-commerce and R&D capital have a positive influence on productivity, while R&D exhibits a larger productivity-enhancing effect. We also find a complementary relationship between e-commerce and R&D on enhancing productivity. Crucially, the inter-industry network externality of e-commerce significantly contributes to productivity.

**JEL classification:** L60; O30**Keywords:** productivity, R&D spillovers, e-commerce, network externalities

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\* Corresponding author: Department of Economics, National Central University, No.300, Jhongda Road, Jhongli City, 320, Taiwan. Tel: +886-3-4226903. E-mail: [chyang@mgt.ncu.edu.tw](mailto:chyang@mgt.ncu.edu.tw).

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