

***The Effect of Information and Communication Technology (ICT) on Indonesian  
Bilateral Trade: The Evidence from ASEAN Countries***

**Dyah Titis Kusuma Wardani  
Muhammad Azizurrohman  
Aliza Harry Tanthowy**

**Dipresentasikan dalam International Conference and Call for Papers (ICCAP),  
Ministry of Trade Republic Indonesia, 5-6<sup>th</sup> September 2018**

**PRODI EKONOMI PEMBANGUNAN  
FAKULTAS EKONOMI DAN BISNIS  
UNIVERSITAS MUHAMMADIYAH YOGYAKARTA  
SEPTEMBER 2018**

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## **Pengaruh Teknologi Informasi dan Komunikasi (TIK) pada Perdagangan Bilateral**

### **Indonesia: Kajian Empiris dari Negara-negara ASEAN**

#### **Abstrak:**

Kemajuan Teknologi Informasi dan Komunikasi (TIK) berbasis elektronik yang memajukan masyarakat lebih modern telah dikaitkan dengan perdagangan yaitu untuk mengurangi biaya tetap termasuk biaya pencarian pasar, iklan, dan membangun distribusi jaringan. Selain itu, penggunaan TIK mengurangi keterlambatan dalam transmisi informasi, untuk membuat perencanaan perdagangan lebih efisien dan akurat. Penelitian ini bertujuan untuk menganalisis dampak Pengembangan TIK pada perdagangan bilateral antara Indonesia dan mitra dagangnya di negara-negara ASEAN. Penelitian ini menggunakan kerangka model Gravitasi data panel untuk periode 2010–2017, menggunakan Pooled OLS. Kemudian untuk pemilihan model, penelitian ini dilanjutkan dengan uji Chow untuk menentukan model mana yang lebih baik antara OLS dan fixed effect. Selanjutnya, uji Lagrange Multiplier juga dilakukan untuk membandingkan model mana yang lebih baik antara Pooled OLS dan random effect. Sampel adalah 9 negara anggota ASEAN yang merupakan mitra dagang Indonesia. Hasil kajian menunjukkan bahwa TIK memiliki dampak positif dan signifikan terhadap volume ekspor Indonesia terhadap negara-negara ASEAN. Variabel lain seperti RGDP negara-negara ASEAN sebagai mitra dagang Indonesia, jarak, populasi dan nilai tukar riil juga memiliki pengaruh positif dan signifikan terhadap ekspor Indonesia. Selain itu, hasil ini kuat untuk spesifikasi model alternatif dan metode estimasi. Berdasarkan hasil ini, beberapa implikasi kebijakan dapat dilakukan, misalnya, Indonesia dapat mengembangkan kemitraan perdagangan strategis dengan negara-negara yang memiliki ukuran ekonomi besar dan telah mencapai tingkat tinggi dalam pengembangan TIK, sehingga dapat meningkatkan perdagangan secara keseluruhan.

**Kata Kunci:** Teknologi Informasi dan Komunikasi;; Perdagangan bilateral; Indeks Pengembangan TIK; model gravitasi

**Klasifikasi JEL:** O33; F10; C43; C29

## ***The Effect of Information and Communication Technology (ICT) on Indonesian Bilateral Trade: The Evidence from ASEAN Countries***

#### **Abstract:**

*The advancement of electronics-based Information and Communication Technology (ICT) that develop people to become more modern society, has been linked to trade that is to reduce fixed costs include the searching cost of the market, advertising, and establishing network distribution. Furthermore, the use of ICT reduces delays in information transmission, to make trade planning more efficient and accurate. This study aims to analyze the impacts of ICT Development on bilateral trade between Indonesia and its trading partners in the ASEAN countries. Using an extended panel gravity model framework and panel data models for the period 2010–2017, employing a pooled OLS. Then, this research is proceed with Chow Test to determine which model is better between OLS and fixed effect. In addition, Lagrange Multiplier test is also performed to compare which model is better between pooled OLS and random effect. The sample includes 9 ASEAN member countries as Indonesia trading partners. Results indicate that ICT Development has positive and significant impacts on Indonesian export volume toward ASEAN countries. Other variables such as RGDP's ASEAN countries (as Indonesian trading partners), distance, population and real exchange rate also has positive and significant effect on Indonesian export. In addition, these results are robust to alternative model specifications and estimation methods. Based on these results, some policy implications can be derived. For instance, Indonesia may develop strategic trading partnerships with countries that have large economic size and have achieved high levels of ICT development, in order to increase its overall trade.*

**Keywords:** Information and Communication Technolgy; bilateral trade; ICT Development Index; gravity model

**JEL Classifications:** O33; F10; C43; C29