

Kajian Impak Penggunaan Standard Terhadap Ekonomi

Final Report

STANDARDS
MALAYSIA



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List of acronyms

CAB	Conformity Assessment Body	MS	Malaysian Standard
DOSM	Department of Statistics Malaysia	MyIPO	Malaysia Intellectual Property Corporation
EMS	Environmental Management System	OHS	Occupational Health and Safety Management System
GDP	Gross Domestic Product	OHSAS	Occupational Health and Safety Assessment Series
GDPMD	Good Distribution Practice for Medical Devices	OLS	Ordinary Least Squares
GFCF	Gross Fixed Capital Formation	QMS	Quality Management System
ICT	Information and Communications Technology	R&D	Research & Development
IEC	International Electrotechnical Commission	SME	Small and Medium-sized Enterprise
ISMS	Information Security Management System	SOP	Standard Operating Procedure
ISO	International Organization for Standardization	VIF	Variance Inflation Factor
IT	Information Technology		
KPI	Key Performance Index		
MLE	Maximum Likelihood Estimation (MLE)		
MRA	Mutual Recognition Agreement / Arrangement		



This study consists of two parts: Part 1 investigated the economic impact of standards and Part 2 assessed the impact of MRAs

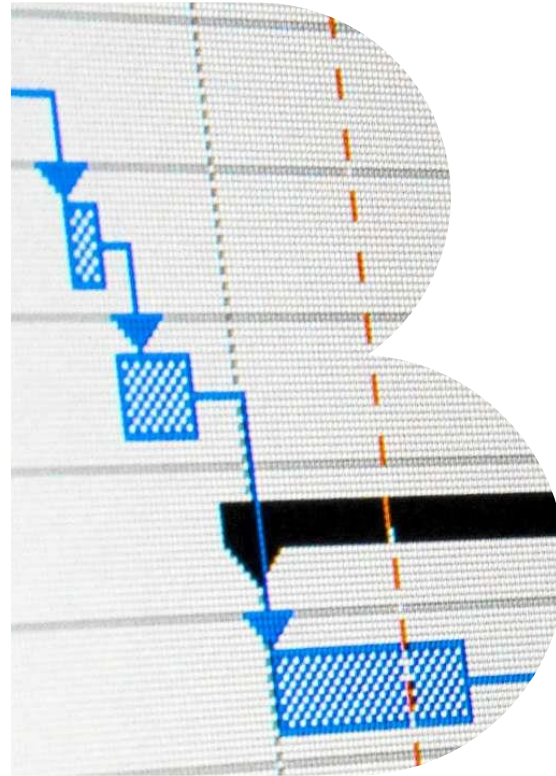
Context

- This study consists of Part 1, which investigated the impact of standards on the Malaysian economy, and Part 2, which additionally investigated the impact of Mutual Recognition Arrangements (MRAs) in improving international market access
- Part 1, investigated the impact of standards on key value chain activities and GDP across the Retail and wholesale, Transportation and storage, and Information and communications technology (ICT) industries, including how standards improves the ability of Malaysian companies to access international markets
- Part 2 of the study, looks into a deeper investigation of the awareness and effectiveness of Mutual Recognition Arrangements (MRAs) in improving international market access for companies in the same three industries, i.e. Retail and wholesale, Transportation and storage, and ICT



A. Project context: Impact of standards

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The objective of this project is to study the macroeconomic and microeconomic impact of standards

Objectives and outcomes

Objectives

- > Assess the economic impact among organizations adopting standards and subsequently the microeconomic and macroeconomic impact
- > Provide empirical data as a basis for assessing the impact of the usage of standards on the economy
- > Identify issues and challenges that arise in relation to compliance with standards
- > Provide policy proposals and strategies towards standard compliance among industries

Outcomes

- > Greater understanding of the microeconomic and macroeconomic impact of standards on the identified sectors of Retail and wholesale, Transportation and logistics, and ICT, especially regarding:
 - Operations
 - Quality
 - Business relationships
 - Risk management
 - Economic value

The economic impact of standards was investigated in three industries: Retail & wholesale, Transportation & logistics and ICT

Investigated industries

Retail and wholesale

- > Retail refers to the resale of new and used goods to the **general public for personal or household consumption**
- > Wholesale refers to the resale of new and used goods to **retailers, businesses, and other professional users**



Transportation and logistics

- > Transportation encompasses the **provision of passenger or freight transport** via different mediums
- > Logistics also covers **support activities for transportation**, such as **warehousing and cargo handling**



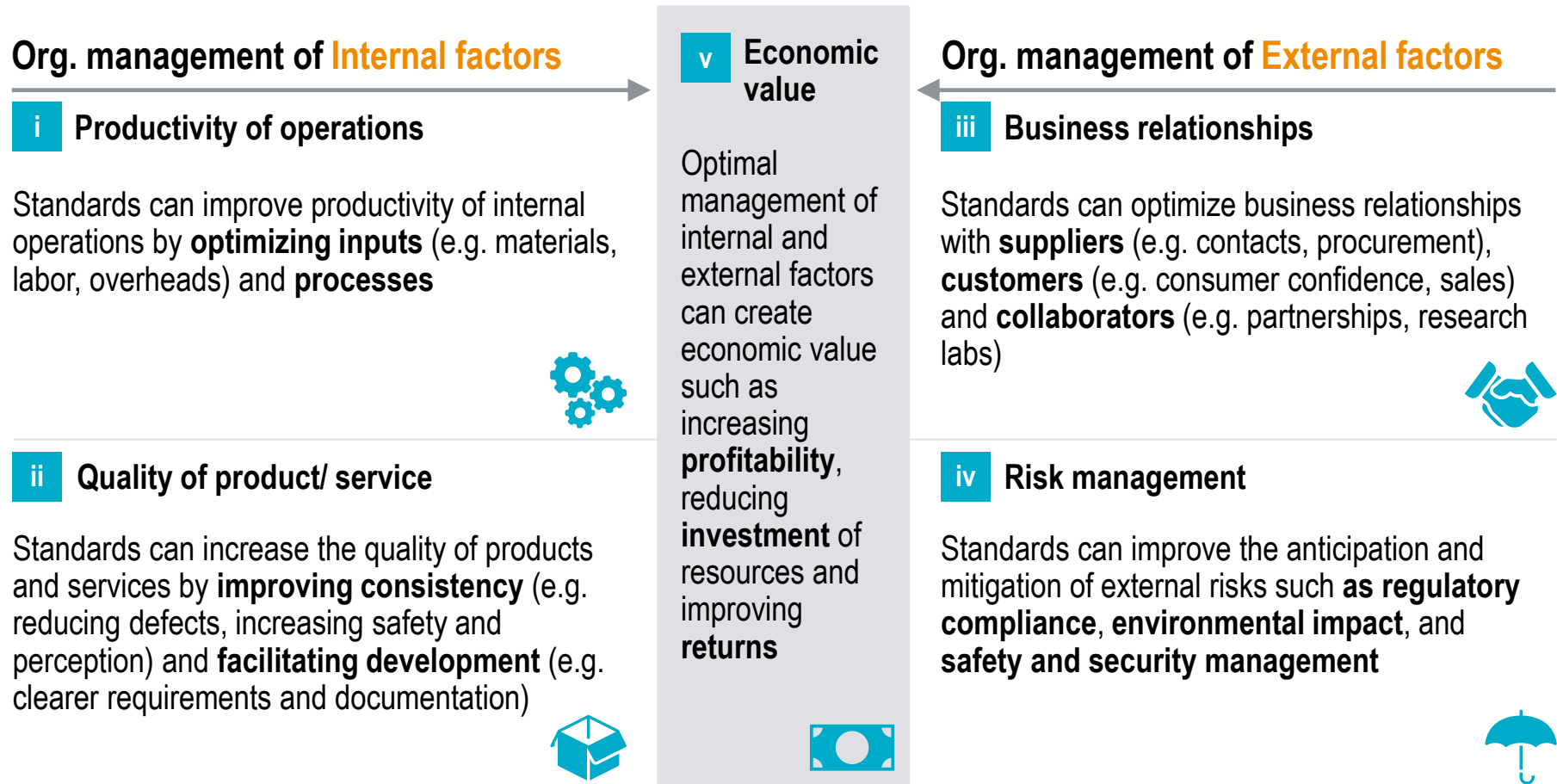
Information and communications technology (ICT)

- > ICT covers the **production and distribution of information and cultural products**
- > **Includes activities such as** computer programming, TV & film production, telecommunications, and data processing



The impact of standards on companies and industries was assessed across 5 key dimensions

Framework to analyze the microeconomic impact of standards



Interview contacts were provided by Standards Malaysia with support from RB; RB conducted in-depth and basic interviews

Overview of interview preparation

Interview contacts

- > Interview contacts to be provided by Standards Malaysia
- > ~90 interviews will be conducted in total, ~30 for each of the 3 sectors



In-depth interviews

- > ~30 in-depth interviews (>1 hour) will be conducted in total, ~10 interviews for each of the 3 sectors
- > Face-to-face interviews and telephone conferences when appropriate
- > More sensitive data collected, for quantification of financial impact and detailed case studies



Basic interviews

- > ~60 other interviews (~1 hour) will be conducted in total, ~20 interviews for each of the 3 sectors
- > Telephone conferences and supplemented with desk research
- > More general data collected, e.g. to understand qualitatively how standards have impacted value chain and key activities



Surveys and interviews were completed to identify the impact and issues of standards implementation

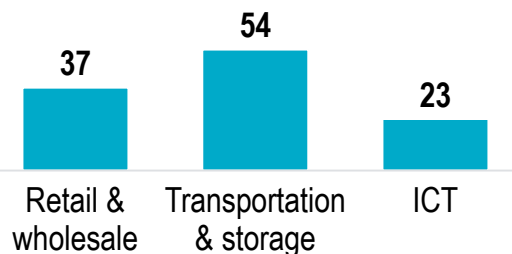
Data collection

Targeted outputs

Data collection method

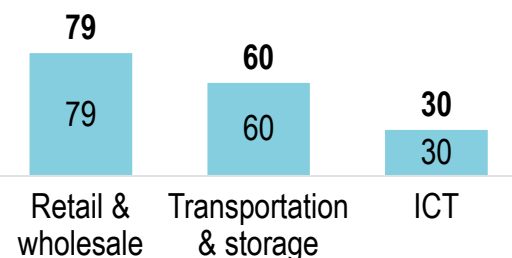
No. of respondents

Completed phone interviews



Online surveys

Only completed responses are recorded out of 1746 sent emails

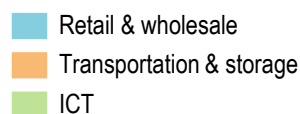
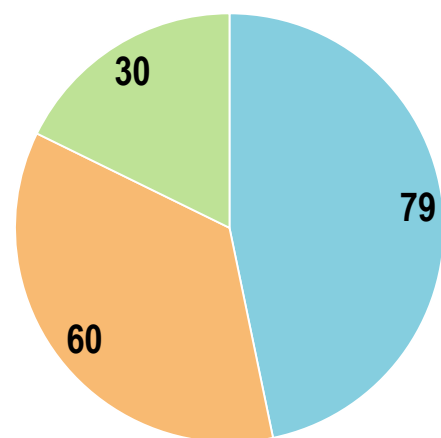


	Targeted outputs	Data collection method
Microeconomic	<ul style="list-style-type: none"> > At industry level, key activities/ area in value chain where standards have the greatest impact > Most important standards for the industry > Issues that arise in compliance with standards 	<ul style="list-style-type: none"> > Online surveys > Basic interviews > In-depth interviews
	<ul style="list-style-type: none"> > Qualitative explanations on how the use of standards improved the execution of key activities 	<ul style="list-style-type: none"> > Basic interviews > In-depth interviews
	<ul style="list-style-type: none"> > Quantification of improvements due to standards in terms of financial benefits 	<ul style="list-style-type: none"> > In-depth interviews
Macro-economic	<ul style="list-style-type: none"> > Analysis and evaluation of the contribution of standards to the growth of GDP 	<ul style="list-style-type: none"> > Macroeconomic research

This is a summary of the profile of companies that were surveyed

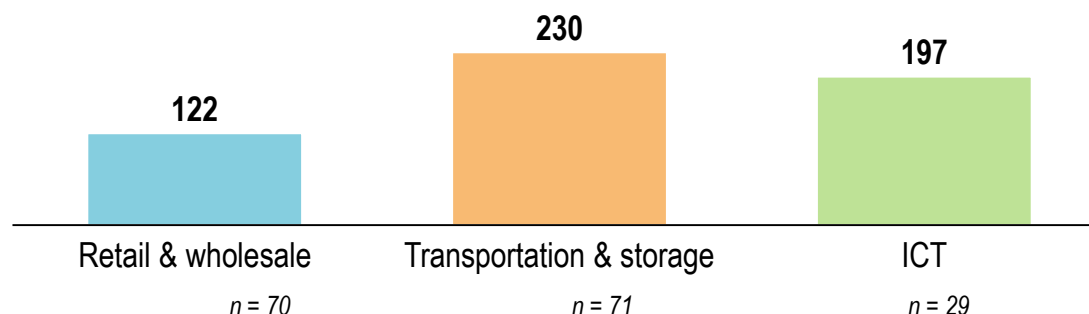
Overview of profile of companies surveyed

Number of respondents for survey

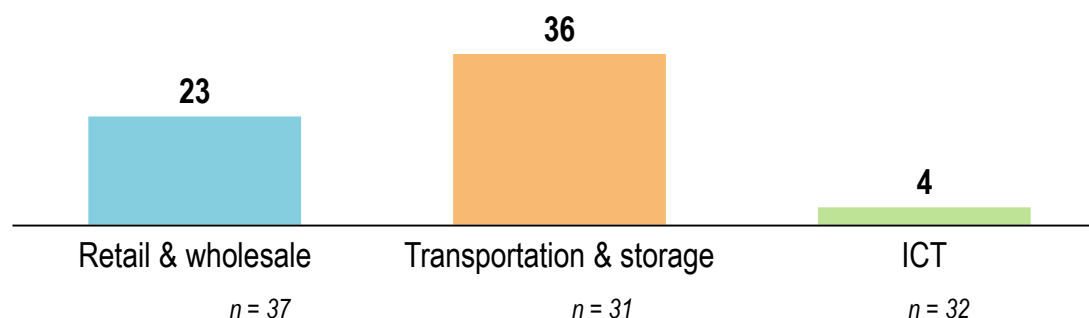


Company size¹⁾

Average number of employees²⁾



Median revenue for 2019 [RM m]



1) Subject to available data that was provided during interview and survey; 2) Of total companies surveyed, 17% are micro (<10 employees), 62% are SMEs (10-249 employees) and 21% are large (250+)

Key inputs for the analysis were obtained from the Department of Statistics Malaysia, Standards Malaysia and MyIPO

Inputs for macroeconomic analysis

Source of inputs

Data type



Value-added (GDP)¹⁾



Department of Statistics
Malaysia (DOSM)



**Gross fixed capital
formation (GFCF)**



Department of Statistics
Malaysia (DOSM)



**Number of people
employed**



Department of Statistics
Malaysia (DOSM)



**Number of
standards published**



Standards
Malaysia



**Number of patents
granted**



Malaysian Intellectual
Property Corporation (MyIPO)

Data considerations

Scope of data



For focus industries, defined based on the **Malaysian Standard Industrial Classification 2008²⁾**

Frequency of data



30 data points for each data type, **yearly data for the last 30 years**

1) GDP statistics are based on value added at constant 2005; 2) Manufacture of Basic Metals (Division 24), Manufacture of Fabricated Metal Products (Division 25), Civil engineering (Division 42), Warehousing and support activities (Division 52)

B. Executive summary of report findings

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For Retail and wholesale sector, standards have positive macroeconomic impact and mainly benefit product quality

Summary of key findings (1/3)

Retail and wholesale sector

Use and key benefits

- > Users in the Retail and wholesale sector obtain standards as it serves as a guide for their SOP. As a result, most of the benefits expressed are centered upon improvement in productivity of operations, better quality and improved risk management
- > Users also find standard helpful in creating business relationships and collaboration as standards serves as a seal of quality; ensuring trust between companies and customers
- > The result of the survey shows that standards have significant impact in improving product quality
- > Most users also find Malaysian accredited conformity assessment services effective in improving international market access as they are sufficient to enter most foreign markets and most users are not required to repeat accredited conformity assessment services at the destination country

Key issues

- > 43.2% of standards users in Retail and wholesale sector had no issues with the implementation of standards
- > The key challenges faced by others is mainly the difficulties in ensuring employees follow the standards; which sits more on internal governance and control
- > Other challenges include the general cost increase from adhering to standards and the issues with the lack of general adherence to standards by other companies, hence material and output are not always standardize or up to expectations

Popular standards in Retail and wholesale industry

- > MS ISO 9001:2015 Quality Management System

Macroeconomic impact of standards in the Retail and wholesale sector

- > Econometric analysis shows that 1% increase in net stock of standards stimulates 0.44% of GDP growth

Benefit for the Transportation and storage sector centers around risk and operation improvements – Macroeconomic impact positive

Summary of key findings (2/3)

Transportation and storage sector

Use and key benefits

- > Users in the Transportation and storage sector obtain standards as it serves as a guide for their SOP. As a result, most of the benefits expressed are centered upon improvement in workflow
- > Since the Transportation and storage industry is more capital intensive, standards are also useful in terms of equipment maintenance and training of staff
- > Most users also find Malaysian accredited conformity assessment services effective in improving international market access as they are sufficient to enter most foreign markets and most users are not required to repeat accredited conformity assessment services at the destination country

Key issues

- > 50% of standards users in the Transportation and storage sector had no issue implementing standards
- > The key challenges faced by others are mainly on the difficulties in ensuring employees follow the standards; which sits more on internal governance and control
- > Other challenges include lack of general adherence to standards by other company and complexity in documentation and filings

Popular standards in Transportation and storage industry

- > MS ISO 9001:2015 Quality Management System
- > OHSAS 18001:2007 Occupational Health and Safety Management Certification
- > MS ISO 14001:2015 Environmental Management System

Macroeconomic impact of standards in the Transportation and storage and ICT sectors

- > Macroeconomic study has been combined for both Transportation and storage and ICT sectors due to availability of data
- > Statistical models suggest that a 1% increase in net stock of standards will drive 0.29-0.40% of economic growth

Benefit for the Information and communications technology sector are seen in all areas – Macroeconomic impact positive

Summary of key findings (3/3)

Information and communications technology sector

Use and key benefits

- > Users in the ICT sector obtain standards as it serves as a guide for their SOP. As a result, most of the benefits expressed are centered upon improvement in quality of product/services, improved workflow and improved risk management
- > Standards for the ICT sector is especially useful as a reference for documentation and providing a systematic audit process; which is one of the key priorities for this sector that handles large amount of data and confidential information
- > Most users find Malaysian accredited conformity assessment services effective in improving international market access as they are sufficient to enter most foreign markets and most users are not required to repeat accredited conformity assessment services at the destination country

Key issues

- > 39.4% of respondents in the ICT sector had no issue implementing standards
- > The main issue faced by others is the difficulties in ensuring employees follow the standards; which sits more on internal governance and control
- > Others include costs and complexity in documentation and filing

Popular standards in the Information and communications technology sector

- > MS ISO 9001:2015 Quality Management System
- > MS ISO/IEC 27001:2008 Information Security Management System (ISMS)

Macroeconomic impact of standards in the Transportation and storage and ICT sectors

- > Macroeconomic study has been combined for both Transportation and storage and ICT sectors due to availability of data
- > Statistical models suggest that a 1% increase in net stock of standards will drive 0.29-0.40% of economic growth