

Evolution of transport logistics patterns and characteristics of innovative Tasmanian firms

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CERTIFICATION

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ABSTRACT

Understanding transport logistics trends as a basis for sustainable transport policymaking is a growing research field. Within this field, a focus on transport logistics needs of innovative firms has received hardly any attention despite their greater importance to sustainable economic growth compared with non-innovative firms.

This research addressed this gap by determining the evolution of transport logistics patterns and characteristics of innovative firms in the small-scale economy of Tasmania, Australia, for the period 2002-03 to 2005-06. The main implications of this evolution for public transport policymaking, although not representing a major focus of the research, were also identified. To achieve its aim, the research included a comparative assessment between innovative and non-innovative firms in terms of their freight transport intensity and contribution to Tasmanian economic growth.

The objective of the research was to provide a missing link in the knowledge chain of transport policymaking that would assist transport policymakers in understanding current and future transport logistics needs of innovative firms. This, in turn, could enable the development of sustainable transport policies that meet such needs and support the competitiveness and growth of innovative firms, and hence the growth of the economy.

The methodology of the research consisted of an industry-based and logistics-oriented quantitative analysis developed within the boundaries of a broader methodological framework in the research field of identifying logistics trends. The analysis was applied on two secondary datasets. The first dataset consisted of the land freight tasks in 2002-03 and 2005-06 provided by the Tasmanian Department of Infrastructure Energy and Resources. The second dataset was from the Tasmanian innovation census for the period 2004 to 2006 provided by the Australian Innovation Research Centre of the University of Tasmania.

The research found that innovative Tasmanian firms were more export-oriented, contributed more to economic growth, and were more freight-intensive, than the general population of firms. It also found that innovative Tasmanian firms had distinctive transport logistics patterns and characteristics, and hence distinctive transport logistics requirements. In particular, they were more intensive users of road/rail intermodal transport, and their transport logistics characteristics in general are becoming increasingly more suitable for intermodal transport.

Overall, the findings imply that the capacity of innovative firms to contribute to sustainable economic growth would be enhanced through long-term transport policymaking tailored to their distinctive needs. For Tasmania, this could be achieved by centring transport policymaking on the development of a small-scale intermodal transport system that could accommodate changes in the transport logistics needs created by the dynamics of supply chain management of innovative firms. A further issue is whether innovative firms have distinctive inherent characteristics from a transport logistics perspective and this too calls for further investigation.

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LIST OF ABBREVIATIONS

ABS	Australian Bureau of Statistics
AIRC	Australian Innovation Research Centre (University of Tasmania)
ANZSIC06	Australian and New Zealand Standard Industrial Classification 2006
ANZSIC93	Australian and New Zealand Standard Industrial Classification 1993
ANZSPC	Australian and New Zealand Standard Product Classification
Census data	The Tasmanian Innovation Census data
Census data0306	DIER data and Census data associated with the Common population
Common data0306	DIER data associated with only the Common population
Common population	firms associated with Data03 and Data06
Data03	DIER data relative to 2002-03 and all firms
Data06	DIER data relative to 2005-06 and all firms
DIER	Department of Infrastructure, Energy and Resources (Tasmania)
DIER data	Tasmanian land freight task relative to 2002-03 and 2005-06 collected by DIER using the FDS
EC	European Commission
EU	European Union
Extended innovation data0306	DIER data associated with all innovative firms
FDS	Freight Demanders' Survey
GDP	Gross Domestic Product
GSP	Gross State Product
ICT	Information Technology and Telecommunications
Innovation data0306	DIER data associated with innovative firms in the Common population
Km	kilometre
LM	Logistics Management
OECD	Organisation for Economic Co-operation and Development
SCM	Supply Chain Management

SULOGTRA	the name of an EC study using an abbreviation for the terms supply chain management (SU), logistics (LOG), and transport (TRA)
t	tonnes
TDR	Transport Distance Range
TEU	Twenty-foot Equivalent container Unit
TFES	Tasmanian Freight Equalisation Scheme
t-km	tonnes-kilometre
TRILOG	Trilateral Logistics Study
TRILOG-Eu	Trilateral Logistics – Europe
UK	United Kingdom
USA	United States of America