Managing intellectual liabilities by service recovery

Purpose – The paper studies intangible liabilities in a practical management setting with an overall aim to develop better managerial practices to avoid depreciation of organizations’ intangible assets.

Design/methodology/approach – Empirical examination of the studied phenomenon was carried out in construction industry. Empirical data was gathered in two phases. First, 16 persons engaged to customer service in four construction companies were interviewed. The purpose was to identify intangible liabilities. After the interviews, two workshops in two companies were organized to reflect findings and to improve and develop organizations’ service recovery practices.

Originality/value – The novelty value of the suggested approach lies in cross-disciplinary consideration of customer experience as an antecedent of various processes that may have negative impact on organizations’ intellectual capital, and further on performance. The paper conceptualizes the hidden renewal capability of contradictory and negative customer experiences by analyzing their potential implications on IC, especially in relational capital.

Practical implications – Contributions of the paper relate to its practical research approach and focus on relational liabilities. The paper provides new understanding about intellectual liabilities within a certain industrial context and discusses more generalizable aspects to be considered in managing intellectual capital.

Keywords – Intellectual liabilities, Intellectual capital, Service recovery, Customer satisfaction

Challenges in the paradigm change from mobility as a self-service to mobility as a service

The predominant paradigm of everyday mobility in Finland is mobility as a self-service where most of the mobility needs are taken care with passenger cars. The ‘Mobility as a Service’ (MaaS) model is a new paradigm that challenges the current mobility practises. The purpose of this paper is to describe the current state of mobility and analyse the potential and challenges of MaaS against current situation in demographics, mobility and mobility related consumption in Finland. It would require a big shift in the current mobility practises for MaaS to become mainstream. In this paper, on one hand potential and one the other more challenging customer segments are recognised and the possibilities of MaaS to address these are discussed.
Can e-government solutions enhance the work in municipalities?: empirical evidence from case lupapiste
Digitalization and increasing demand of e-government services are not changing only the way the citizens can use public services, but also the nature of work of many municipality employees. At best this kind of digitalization can offer added value in the form of enhancing the work of the municipality personnel. In this paper, we study the effects of adopting an e-government service on work in municipalities. Based on an empirical investigation of five municipalities we propose flow efficiency as a key metric to grasp the added value of digitalization of a public service, as it reveals the most valuable activities as well as the potential bottlenecks. Flow efficiency measurement gives therefore a better indicator to be used in e-government process development than e.g. simple throughput time especially when evaluating the effects of digitalization on knowledge work productivity.
Future trends of air transport in Europe

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Organisations: Department of Information Management and Logistics, Research group: Transport Research Centre Verne
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Liikenteen CO2-päästöjen vähennystoimenpiteiden kustannustehokkuus

**General information**

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**Baltic Sea 2030 - Trends and scenarios**

The current Baltic Sea logistics system is a result of an optimisation process by industry, ports, shipowners and other stakeholders, all adapting to changes in the operating environment and building strategies for the future. As a result of this process we see the current logistics system, but the parameters of the optimisation process are changing constantly. Global directions of change are called megatrends and common megatrends include: globalisation and increasing importance of Asia, global political issues but national interest, rising energy demand and increase in alternative energy sources, climate change, increasing pace of technological development and urbanisation.

In this study five trend categories were identified based on the megatrends and considered in terms of their effect on the Baltic Sea logistics system. The trends were also analysed by their significance and affectability by maritime sector in order to give the actors a better understanding of the trends which may and should be affected.

Four scenarios were build based on the trends. The age of growth scenario is characterised by steady economic growth, growing importance of service sector and restoration of trade between Russia and Europe. The age of regulation, on the other hand, is defined by slow economic development due to strict environmental regulation and lack of innovations in heavy industry. The age of locality could be sparked by rapid climate change which would lead to high price of energy and resulting halt in global trade. The age of change would be possible if technological innovations enable rapid transition to renewable energy and Russia integrates closely to Europe as its energy resources lose its geopolitical significance.

The actors may take one of these scenarios and begin to work actively towards it or take another and work against it. Actors may also build their own scenario as a new combination of the factor values presented in the futures table in this
Possible impacts of increasing maximum truck weight: Finland case study

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Organisations: Department of Information Management and Logistics, Research group: Transport Research Centre Verne
Authors: Nykänen, L., Liimatainen, H.
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Place of publication: Great Britain
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Editors: Blanquart, C., Clausen, U., Jacob, B.
ISBN (Print): 978-1-78630-027-0
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ASJC Scopus subject areas: Business and International Management, Environmental Engineering
Links:
http://www.iste.co.uk/index.php?p=a&ACTION=View&id=977
Research output: Scientific - peer-review › Chapter
During the spring of 2014 Transport Research Centre Verne from the Tampere University of Technology carried out an urban logistics study, where the current challenges and future development needs of city logistics was studied. In the study, this problem is approached from the perspective of shops and services located into the city centre. A part of the inner city centre of Tampere was chosen as a case area of the study. The main research methods were survey and expert interviews.

According to the results, the biggest challenges in the city logistics from the perspective of shop and service office owners are narrow loading and unloading areas, problems related on delivery time schedules and minor possibilities to affect logistics actions. In general, lack of communication and the sharing of information are seen be poorly used in the city logistics. However, retailers and service carries do not see logistics as their weakness nor their main business area. According to the findings, in future the development of city logistics should be done more with a close relationship with transportation companies and the public sector. The future research and development needs should focus on communication between transport companies and their customers, optimization of loading and unloading areas and the impacts of rapidly increasing e-commerce. Highly automated and real-time communication solutions could offer significant benefits for unconsciousness in delivery times for example. Also the potential of underground logistics connections should be studied together with loading and unloading optimization.
costs) and GHG reduction potential. The feasibility factors constitute the preconditions for transport emission reduction potential in Finland and consequently also for reaching the EU-level target. Secondly, the study assessed the impacts of the measures on transport safety and public health. Finally, the roles and responsibilities of municipalities and the state in implementation and financing of the energy efficiency measures were analysed.

Energy efficiency measures, identified in this context, include six categories of measures: (1) promotion of public transport in urban areas, (2) promotion of public transport over long distances, (3) promotion of walking and cycling, (4) measures related to the urban form development, (5) promotion of alternative propulsion for road transport and (6) promotion of low-emission passenger cars.

The results of the study show that public transport, walking and cycling measures integrated in urban transport plans of large and medium-sized cities in Finland hold approximately a 30% CO2 emission reduction potential between 2014 and 2030. This would indicate GHG emission reduction of approx. 0.6 million tons. The assessment covers both the impacts of modal shift and technological development of vehicles and fuels. Measures promoting public transport, walking and cycling are however not particularly cost-effective, if considered exclusively from the climate policy perspective. In fact, emission reductions of these measures are rather achieved as a positive by-product of essential transport system development (e.g. rail line or bicycle lane infrastructure investments).

Based on the study, promotion of public transport would seem to reduce traffic accidents in urban areas, but an increase in walking and cycling to increase them. The safety of walking and cycling is strongly dependent on the types of routes the new transport volumes are directed to and the intensity of the growth. Public health benefits of walking and cycling are high and affect therefore significantly the economic efficiency of the planned measures and the costs of CO2 emission reductions.

Long-distance public transport between the largest cities in Finland is currently undergoing significant changes both in pricing and supply as a result of changes in the legislation at national and EU-level. New operating models and services in public transport supply have emerged, and the development continues.

For the first time in decades the use of public transport is more affordable than the use of a passenger car. Between the major urban areas there is potential with modal and market shifts for the benefit of public transport. Assuming that about 1.5% of long-distance trips made by private car would shift to public transport, 0.5 million tons of GHG emissions could be reduced between 2014 and 2030. Also this estimate includes the technology development dimension.

Urbanisation and population growth in growing urban regions reduce the average mobility need of the population in the future. Based on the zonal approach analysis, reductions in the average carkilometres can be reached, if the new housing development will adhere to zones where daily trips can be made on foot, by bike or by public transport. Through the measures related to the urban form development, it is possible to reduce the amount of daily passenger-kilometres by approximately 6%, the impact of which is around 3 - 4% (ca. 0.2 million tons) on CO2 emissions of domestic passenger transport. Infill development is one of the most powerful measures related to urban form. It can affect both new housing locations and creation of conditions for improved public transport services. Economic instruments (e.g. tax deductions on commuting and road pricing) can significantly affect the location decisions of residents and companies as well as their mobility behaviour. It is essential that urban form supports transport measures in reducing emissions by enabling sustainable mobility choices and services.

On the basis of economic modelling, domestically produced biofuels are economically the most favourable option of the future alternative propulsion in road transport. Biofuels do not limit economic growth, their emission reduction potential is large and the economic value of emission reduction covers the incurred costs of subsidies to biofuel product development, production and distribution chain. The maximal CO2 reduction of biofuels is estimated up to more than 5 million tons (2015 to 2030), which makes them more cost-effective (if considered exclusively from the climate policy perspective) than measures promoting public transport, walking and cycling. CO2 limit values for new cars set by the EU legislation and national CO2-based vehicle taxes have also been cost-effective measures. Because of them, fuel consumption and carbon dioxide emissions of Finnish car fleet have decreased since 2008.

Planning and preparation of energy efficiency measures is often agreed between the state and municipalities e.g. through legislation, but challenges have been identified in their implementation. Examples of these are national-level strategies, implementation of which requires shared funding. In case the other party lacks funding, or funding is delayed, the projects will be postponed or not realised at all. Also deficiencies in instructions to municipalities on the implementation of energy efficiency measures (e.g. directive on the procurement of clean vehicles) can slow down or even prevent the realisation of the projects.

The projected EU non-ETS sectors emissions reduction target (-36% by 2030) would mean a reduction of CO2 emissions of transport by 4.6 million tonnes from the 2005 level in Finland. Based on the results above, measures promoting public transport, walking, cycling and urban form development could possibly cover approx. 28% (1.3 million tonnes, 2014-2030) of the total reduction target. The contribution is clearly less than the contribution of road traffic vehicle fleet and fuel technology measures (approx. 5 million tonnes reduction, 2014-2030), but its value should not be underestimated because of other benefits to be achieved. These include positive impacts on congestion, air quality, road safety and also to a significant extent on public health. Technology measures contribute to, through new fleet and fuel alternatives, the effectiveness of other energy efficiency measures, and consequently the different types
of measures complement each other in achieving the goals of sustainable urban mobility.

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**Liikenteen markkinat Suomessa**

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Organisations: Department of Information Management and Logistics, Research group: Transport Research Centre Verne
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Research output: Professional › Commissioned report

**Pyöräväylien tiedot ja laatutaso**
In recent years, cycling has become increasingly popular in Finland. Finnish municipalities tend to have extensive cycling networks, but those networks also have quality defects that reduce the smoothness, speed and safety of cycling. Since the entire cycling network cannot be reconstructed at once, it must be repaired one section at a time. This calls for a method that enables an assessment of the quality of the cycling network. Such an assessment would, in turn, enable an estimation of the need for measures.

Cycling network quality classification would facilitate planning and contribute, in a number of ways, to the municipality-level development goals set for cycling. Several municipalities have supported cycling by defining goals for a better cycling network structure and hierarchical classification. This preliminary survey proposes a three-tier functional classification of cycling routes, which should also be used in the national guidelines for the planning of pedestrian and cycling routes: main network, regional
A shared data model would encourage municipalities to perform hierarchical classifications, while also providing a common platform for storing such data. The data model would also contribute to the goal set in the National Strategy for Walking and Cycling, of increasing the amount of cycling by 20% by 2020. For example, the data model will enable the generation of precise cycling maps of an area, in order to improve maintenance and the availability of parking and to support the development of new applications that support cycling.

The quality classes have been developed to help define the quality of the cycling network; they comprehensively describe the quality of the routes based on a range of properties. Each quality class is divided into three parts: static, dynamic and perceived properties. These three parts can be used to calculate a numerical grade for each section of the route network. Static route properties are permanent, created by means of planning and related measures. Dynamic properties, on the other hand, change over time, for example as materials wear out. Ensuring the quality of these properties requires monitoring and continuous maintenance. Finally, perceived properties consist of any characteristics of the routes or the surrounding environment that affect cyclists’ experiences.

In order to ensure the progress of the cycling data model's development, this preliminary survey also includes a proposal for a pilot project for creating a digital description of the cycling network for a limited area. For example, the pilot would consist of the following parallel subsections: defining the content of the first version of the data model and investigating the connection between the OpenStreetMap and the Digiroad database model. Another subsection would involve the piloting of new data generation models and tools.
**Sustainable and responsible freight transport through public-private collaboration: Finnish road freight responsibility model**

**Purpose**

In aviation, maritime and rail transport safety management systems are well adapted and they are fixed part of daily practices and the minimum requirements for systems are set in European regulations. However, this does not apply to the road freight sector. In 2013, Finnish Transport Safety Agency (Trafi) started to develop a road freight responsibility model, which was intended to enhance safety, quality and environmental management in the Finnish road freight transport sector. The aim of this paper is to introduce the Finnish model and to summarize the main findings from the responsibility model.

**Approach**

This paper includes data and knowledge from two separate but related projects which studied responsibility and sustainability in the Finnish road freight sector. The paper combines information from several methods, but the main research method was a case study with transport companies. Complementary methods used in this paper are workshop and online survey.

**Findings**

Transport companies have different practices and attitudes related to the responsible business and the size of the company or the main service sector of the company do not always explain the differences. According to the results, this kind of new voluntary basis approach has a demand in the road freight sector and it will provide help for transport companies to develop their business.

**Value**

The paper represents a new approach of the national transport agency to develop the road freight sector. With the responsibility model Trafi aims to promote sustainable and responsible business of all sizes of transport companies with a voluntary basis approach.

**General information**

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ASJC Scopus subject areas: Engineering(all)

Links:

http://brage.bibsys.no/xmlui/bitstream/handle/11250/2359479/1/NOFOMA%202015%20PCP.pdf (pp. 238-252)

Research output: Scientific - peer-review › Conference contribution

**Tarve, tottumukset, tekniikka ja talous – ilmastonmuutoksen hillinnän toimenpiteet liikenteessä**

**EXECUTIVE SUMMARY**

**Background**

The carbon dioxide (CO2) emissions from Finnish transport sector were 12.0 Mt in 2013, which is about 23% of total CO2 emissions in Finland. Transport sector’s share of emissions has grown during last few years as the emissions from industry and energy production have decreased. Hence, the development of transport emissions is increasingly important when the possibilities to achieve the greenhouse gas reduction targets are evaluated in Finland. Transport CO2 emissions should be decreased from the 1990 level by at least 40% by 2030 and 80% by 2050.

According to the Intergovernmental Panel on Climate Change (IPCC) emissions from transport may grow faster than on any other sector without aggressive and sustained emission reduction measures. Also in Finland the Finnish Transport Agency forecasts car transport to grow significantly by 2050 and even without this growth emission reduction in transport is not fast enough to mitigate climate change.

According to the IPCC avoiding journeys, modal shift, improvements in vehicle technology, low-carbon fuels, infrastructure investments and densifying urban landscapes effectively combined enable significant emission reductions. A range of strong and mutually-supportive policies are needed to support these measures in both short- and long-term.
Cost efficiency of measure packages
The most cost efficient measure for the society is to support a shift from private car use to social car use through increasing car-sharing and ride-sharing (see Table below). Ride-sharing increases the energy efficiency of cars without any additional costs and car-sharing reduces the car fleet thus reducing the purchase costs and fixed costs of cars. Such transformation towards Mobility as a Service-thinking requires both technological innovations and changes to legislation and market regulation.

Measures affecting the development of urban form are also very cost efficient as costs are mostly only caused by dissemination of best practices. Developing walking and cycling infrastructure affecting the modal split may also be very cost efficient because of the related health benefits. Rail infrastructure projects dominate the development of public transport and while those are expensive, they also improve transport safety. Developing urban is closely related to infrastructure projects and the changes take time, so the political guidance must be persevering.

Technological measures induce costs to society because both reducing the energy consumption of cars and uptake of alternative fuels and vehicles require high investments. However, great emission reductions may be achieved through technological measures and the emission reduction targets can be achieved through only technological measures. This would require rapid uptake of alternative energy vehicles and the society would not receive the great benefits, such as health benefits, energy savings and fixed car cost savings, associated with measures affecting urban form, modla split and social car use.
Decarbonizing road freight in the future - Detailed scenarios of the carbon emissions of Finnish road freight transport in 2030 using a Delphi method approach

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Scopus rating (2014): SJR 1.291 SNIP 1.781 CiteScore 2.88
Scopus rating (2013): SJR 1.281 SNIP 1.739 CiteScore 2.93
Scopus rating (2012): SJR 1.507 SNIP 2.009 CiteScore 2.92
Scopus rating (2011): SJR 1.094 SNIP 1.582 CiteScore 2.37
Scopus rating (2010): SJR 1.018 SNIP 1.47
Scopus rating (2009): SJR 0.838 SNIP 1.589
Scopus rating (2008): SJR 0.848 SNIP 1.502
Scopus rating (2007): SJR 0.628 SNIP 1.377
Scopus rating (2006): SJR 0.568 SNIP 1.171
Scopus rating (2005): SJR 0.527 SNIP 1.614
Scopus rating (2004): SJR 0.343 SNIP 0.897
Scopus rating (2003): SJR 0.409 SNIP 0.97
Scopus rating (2002): SJR 0.431 SNIP 1.007
Scopus rating (2001): SJR 0.609 SNIP 0.843
Scopus rating (2000): SJR 0.209 SNIP 0.304
Scopus rating (1999): SJR 0.272 SNIP 0.986
Original language: English
DOIs: 10.1016/j.technfo.2013.03.001

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Knowledge Utilization and the New Transport Paradigm

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Place of publication: Tallinn, Estonia
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ISBN (Print): 978-9949-29-170-0
Publication series
Name: Knowledge cities world summit
Links:

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Organisations: Department of Information Management and Logistics
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Number of pages: 5
Pages: 176-180
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Title of host publication: Proceedings of the 7th Knowledge Cities World Summit, KCWS 2014, 23-27 September, 2014,
Tallinn, Estonia
Place of publication: Tallinn, Estonia
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Liikenteen päästöjä ei vähennetä vain teknikalla

Possible impacts of increasing maximum truck weight - Case Finland

Road freight energy efficiency and CO2 emissions in the Nordic countries
Synergies and conflicts between safety and environmental measures in transport

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Authors: Pöllänen, M., Liimatainen, H.
Number of pages: 10
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Title of host publication: Transport Research Arena 2014, TRA2014, 14.-17.4.2014, Pariisi, Ranska
The role of corridor development in boosting the European industrial future based on Northern Scandinavian mines

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- **State:** Published
- **Ministry of Education publication type:** A4 Article in a conference publication
- **Organisations:** Department of Information Management and Logistics
- **Authors:** Eckhardt, J., Rantala, J.
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- **Publication date:** 2014

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- **Publisher:** IFSTTAR

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- **Links:**

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- **Contribution:** organisation=tlo,FACT1=1<br/>
- **Portfolio EDEND:** 2014-10-30<br/>
- **Publisher name:** Ifsttar
- **Source:** researchoutputwizard
- **Source-ID:** 1289
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- **Organisations:** Department of Information Management and Logistics, Department of Industrial Management
- **Authors:** Liimatainen, H., Nykänen, L., Hyytinen, T., Vasara, J.
- **Number of pages:** 58
- **Publication date:** 2014

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- **Publisher:** Liikenteen turvallisuusvirasto Trafi
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- **ISSN (Print):** 2342-0286
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- **Links:**
  - [http://www.trafi.fi/filebank/a/1392112085/dd82bbe82db78bd27cc724e2f83bb93b/14193-Trafin_tutkimuksia_03-2014_-_Vastuuullisuusmalli.pdf](http://www.trafi.fi/filebank/a/1392112085/dd82bbe82db78bd27cc724e2f83bb93b/14193-Trafin_tutkimuksia_03-2014_-_Vastuuullisuusmalli.pdf)
Junamatkustajien kokema täsmällisyys

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     - Authors: Kalenoja, H.
     - Number of pages: 2
     - Pages: 20-21
     - Publication date: 2013
     - Peer-reviewed: Unknown
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     - ISSN (Print): 0788-6365
     - Original language: Finnish
   - **Bibliographical note**
     - Contribution: organisation=tlo,FACT1=1>Portfolio EDEND: 2013-12-29
     - Publisher name: Suomen paikallisliikenneliitto

2. **Onko Pyöräilymäärien lisääntyminen uhka turvallisuudelle?**
   - **General information**
     - State: Published
     - Ministry of Education publication type: D1 Article in a trade journal
     - Organisations: Department of Information Management and Logistics
     - Authors: Vaismaa, K., Luukkonen, T.
     - Number of pages: 3
     - Pages: 51-53
     - Publication date: 2013
     - Peer-reviewed: Unknown
   - **Publication information**
     - Journal: Liikenteen suunta, Liikenneviraston T & K -Lehti
     - Issue number: 3
     - ISSN (Print): 1799-2052
     - Original language: Finnish
     - Links: http://www.liikenteensuunta.fi/fi/lataa-pdf/UVcVWhk4SGqpxsuWLBPIMw/
   - **Bibliographical note**
     - Contribution: organisation=tlo,FACT1=1>Portfolio EDEND: 2013-11-29
     - Publisher name: Liikennevirasto

Research output: Professional › Book

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Pyöräilyn lisääntymisen yhteys turvallisuuteen

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State: Published
Ministry of Education publication type: D4 Published development or research report or study
Organisations: Department of Information Management and Logistics
Authors: Luukkonen, T., Vaismaa, K.
Number of pages: 91
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Road freight energy efficiency and CO2 emissions in the Nordic countries

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Organisations: Department of Information Management and Logistics
Authors: Liimatainen, H., Arvidsson, N., Hovi, I., Jensen, T. C., Nykänen, L., Kallionpää, E.
Number of pages: 20
Pages: 1-20
Publication date: 2013
Liikennetekniikan perusteet: Opetusmoniste

General information
State: Published
Ministry of Education publication type: D5 Text book, professional manual or guide or a dictionary
Organisations: Research group: Transport Research Centre Verne
Authors: Mäntynen, J., Kallberg, H., Kalenoja, H., Rauhamäki, H., Pöllänen, M. M., Luukkonen, T., Karhula, K.
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