Identification of the Regional and Economic Contexts of Sustainable Urban Logistics Policies

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Authors

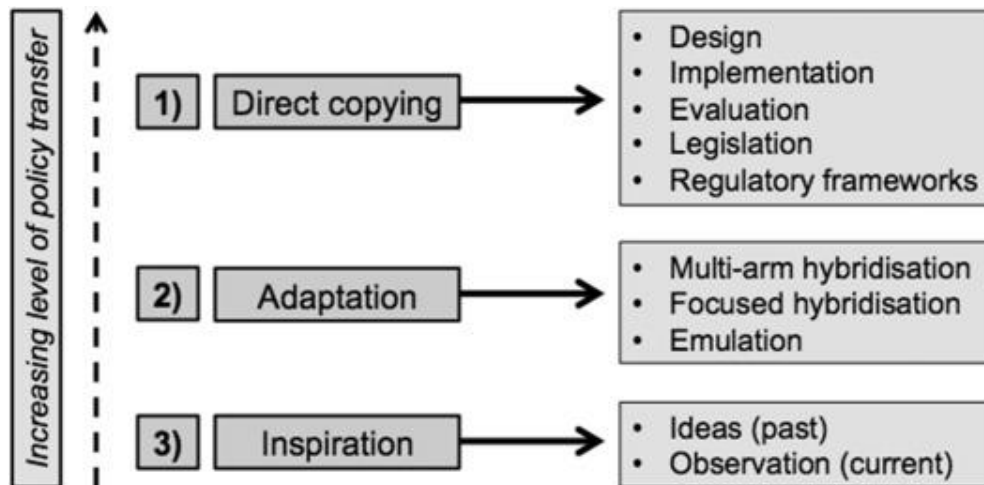Abel Kebede Reda, Girma Gebresenbet, Lorent Tavassy, David Ljungberg

Basic concept

– Improve efficiency & mitigate externalities

- the system is inherently complex

– Multiple Stakeholder's, often having conflicting stake

– Intricate routing patterns

– Diverse goods types

- Different priorities

– European cities: Preservation of historic town centers

– Developing countries: mitigating congestion & serviceability

- Different levels of adoption of urban logistics measures

1. Background: Transferability

"a process in which knowledge about policies, administrative arrangements and institutions in one time and/or place is used in the development of policies, administrative arrangements and institutions in another time and/or place" [Dolowaitz & Marsh, 1996]

Increasing level of policy transfer

1) Direct copying →
- Design
- Implementation
- Evaluation
- Legislation
- Regulatory frameworks

2) Adaptation →
- Multi-arm hybridisation
- Focused hybridisation
- Emulation

3) Inspiration →
- Ideas (past)
- Observation (current)

Transfer pathways (Rose 1991)

Influences →
- Political
- Professional
- Institutional
- Economic
- Social

Understanding the contexts of dependencies (measures, barriers & drivers)

Research Questions:

– What are the contexts of sustainable UL policies worldwide – economic levels and geographical region? Can those contexts be used to identify barriers and drivers for the transfer process?

Research Objectives:

– Analyze the contexts of urban logistics policies worldwide and their significance in transferability

3. Research Methods

Methodological framework of this study

"10 step transferability process" Macário & Marques, 2008
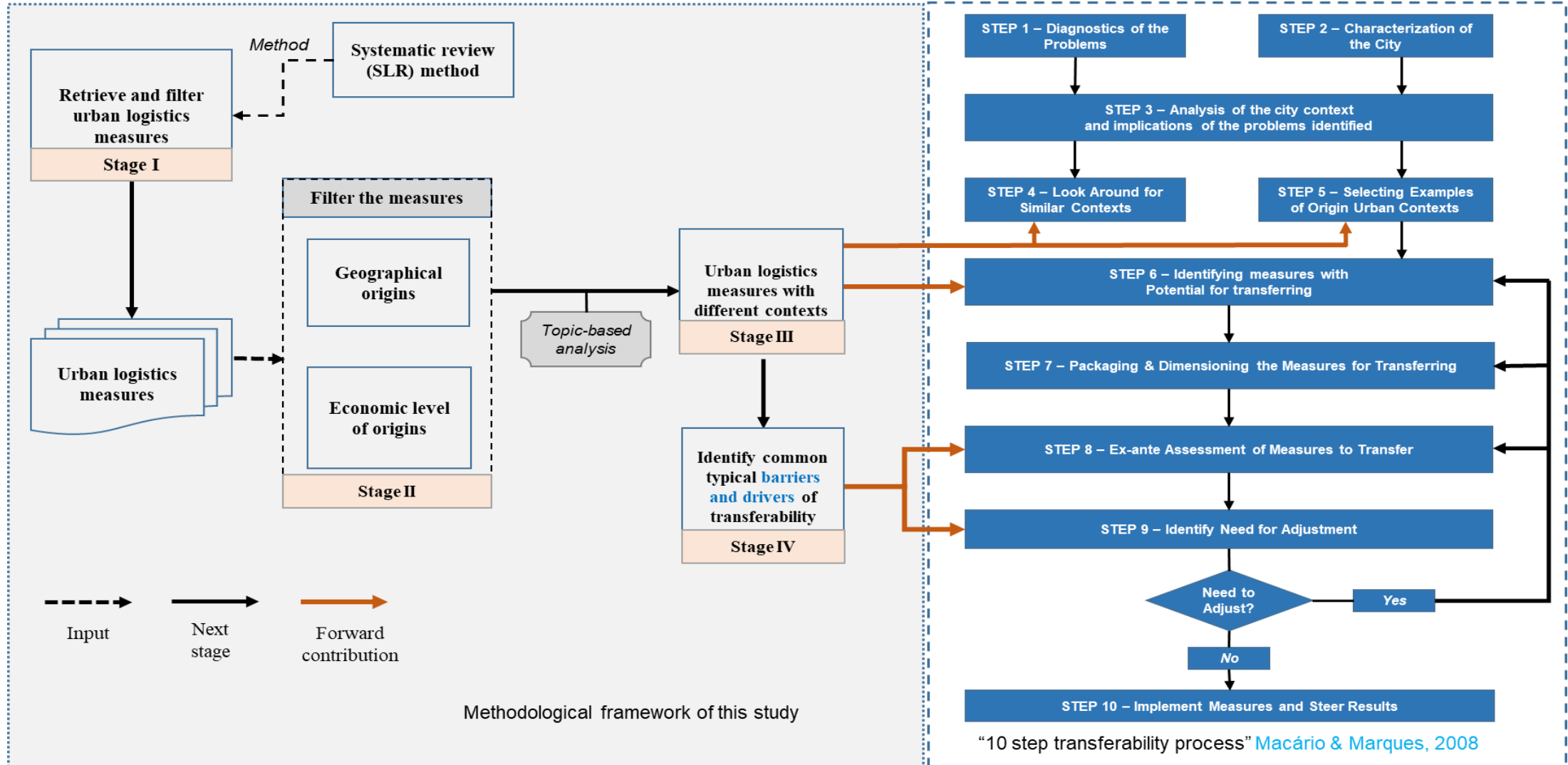
4. Results

Distribution of papers in the database

Region/ Continent	Number (and Percentage) of Relevant Papers	Economic Development Class			
		Developed	In Transition	Emerging	Developing
Africa	1 (0.3)	-	-	-	1
Asia	61 (17.3)	8	-	43	10
Australia	7 (2.4)	7	-	-	-
Europe	200 (63)	196	4	-	-
North America	38 (12.7)	38	-	-	-
Latin America	18 (4.2)	-	-	18	-
Total	325 (100)	249	4	61	11

Topics distribution in developed economies
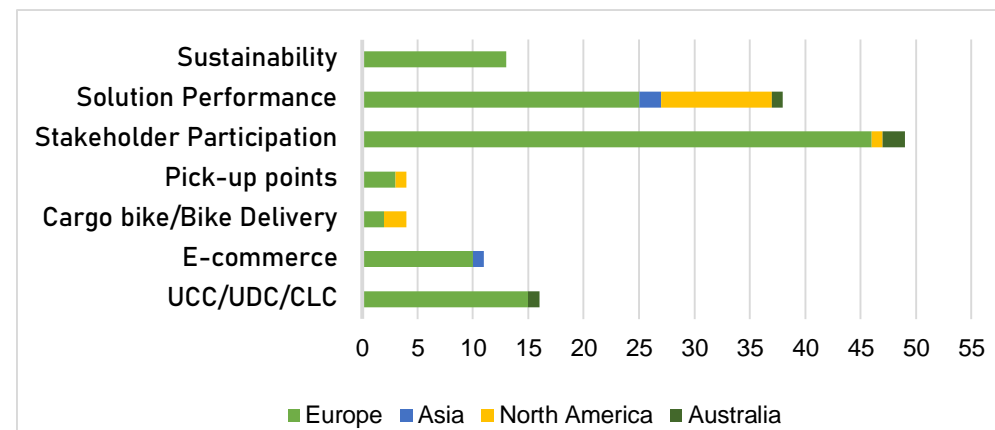
Topics distribution in emerging economies
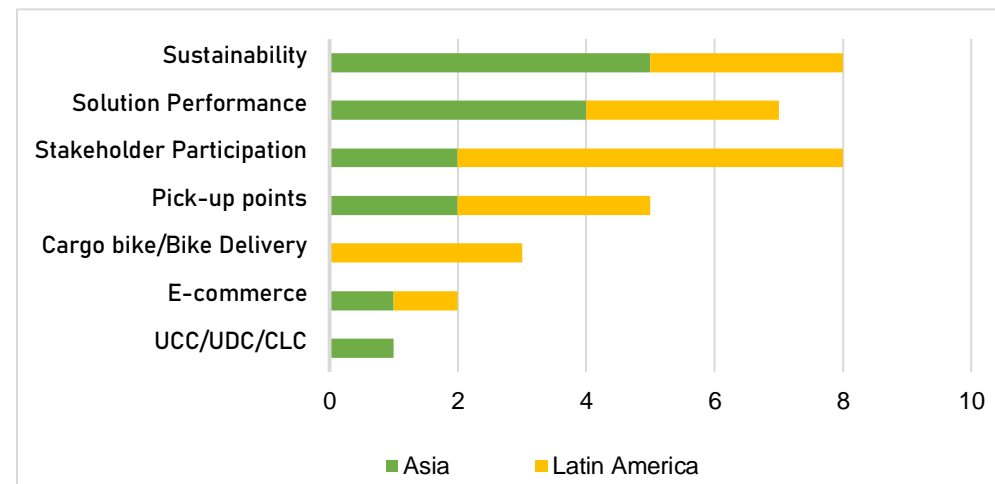
4. Results

Topics in different economic contexts

Topic	Developed Economies	Emerging Economies	Developing Economies
Urban consolidation centers (UCCs)	▪ User perceptions and financial viability; ▪ policies and governance mechanisms;	▪ Distribution models to spatially allocate retailers to UCCs	▪ Manage UCCs facility operations
Pick-up points/parcel lockers	▪ Assessing parcel locker network performance, ▪ Creating values & customer perspectives	▪ Intentions to use self-service parcel delivery	▪ Customer perceptions and parcel lockers network design
E-commerce delivery	▪ Customer availability during home delivery; ▪ performance levels of home delivery vs. nearby pick-up points; ▪ local authority's role in facilitation	▪ Impact of carrier and consumer trips to local collection points	▪ Cost vs flexibility on customers' assigning delivery points ▪

4. Results

❖ Urban logistics solutions transfer between Developed and Developing countries
– Barriers & Drivers

Topics	Rating of Barriers					Drivers
	I	F	P	T	C	
Traffic congestion management	**	*	**	*	-	Congestion management & enhanced freight vehicle performance
Crowd-shipping	*	-	-	*	*	High population density & urban sprawl
Urban Consolidation Centers	*	**	**	-	-	Improved freight delivery performance
Carrier/logistics service provider optimization of operations	-	*	*	**	-	Improve efficiency of trucking & reduce cost for carrier operations
E-commerce delivery	**	-	-	**	*	Enhance business competition
Eco-friendly vehicles	**	*	*	**	-	Reduce climatic burden from UL operations
Smart UL systems with ICT/ITS	*	-	-	**	-	Improved process organization & business performance

Barriers: I = institutional; F = financial, P = physical, T = technological, C = cultural. *Rating:* ** = highly relevant, * = relevant, - = irrelevant.

5. Conclusions

❖ Classifications (economic & geographical location) have a strong association with the measures contexts

❖ Institutional and physical barriers – highly relevant in transfer of measures

❖ The drivers – linked with specific contexts in the recipient city.

Thank you!!

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sustainability

MDPI

Review

Identification of the Regional and Economic Contexts of Sustainable Urban Logistics Policies

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