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E-Waste Governance in East Asia

A Comparative Study of Electronic and Electrical Waste Management Systems in China, Japan, and South Korea

Topic and Research Question

E-waste is one of the fastest growing waste streams worldwide and East Asian nations are among the world's largest e-waste producers with China, Japan, and South Korea leading the list.

This growing amount of e-waste is connected to challenges which call for systems of handling and management: e-waste management systems. To comparatively analyze three East Asian e-waste management systems is the aim of this thesis:

1. *What are the similarities and differences in China's, Japan's, and South Korea's e-waste management systems?*
2. *Can an East Asian mode of e-waste governance be identified?*

The topic and research questions are not only relevant in terms of analyzing a topic of importance for a nation's economy, political system, and society; but also in terms of demonstrating how the concept of governance can be applied to three East Asian e-waste management systems.

State of the Art

E-waste management has become a topic of interest in the 1990s, sparked by the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes. E-waste management has attracted researchers from across the world and across nearly all research fields. Authors from developed as well as developing nations regard the issue from a managerial, political, environmental, technological, and legal point of view.

E-waste management in China is a highly researched topic. The main issues researched are recycling hubs in Southeastern China (Zhang, 2009), the informal sector for e-waste treatment (Ni et al., 2007), and waste imports (Tong et al., 2004). E-waste management in Japan is not as popular among researchers. Authors are interested in the effects of e-waste laws (Yoshida, 2010), technological innovation (Yamawaki, 2003), and e-waste composition and flows. South Korean e-waste management is also not a topic of great interest. Authors within the field mostly deal with issues such as generation numbers e-waste laws, and producer responsibility (Kim et al., 2009).

Within the existing literature on e-waste management the author of this thesis has identified two research gaps: few comparisons exist between East Asian e-waste management systems and few authors deal with e-waste management from a governance perspective. The author of this thesis aims to fill these research gaps by comparatively analyzing three East Asian e-waste management systems from a governance perspective.

Methodology and Approach

E-waste is a challenge which requires ways of handling. These ways of handling can be connected to the concept of governance as governance is the way societies deal with problems and issues.

Governance is the approach applied in this thesis. In order to draw a complete picture of the three e-waste management systems, three dimensions of governance are analyzed: policy (political steering), politics (actor constellations), and polity (institutional structures). These three dimensions bring forward processes within and without government and take legal aspects into consideration as well as informal processes and non-state actors.

Taking the three dimensions as a starting point, eight points of analysis can be derived. Within the policy dimension the degree of legal bindingness, the approach towards implementation, sanctions, and the nature of regulations are analyzed. The politics dimension analyzes actor involvement and the polity dimension analyzes hierarchy, the locus of authority, and institutions. All of these points of analysis indicate where a nation's policy making systems lies on a spectrum between state intervention and societal autonomy.

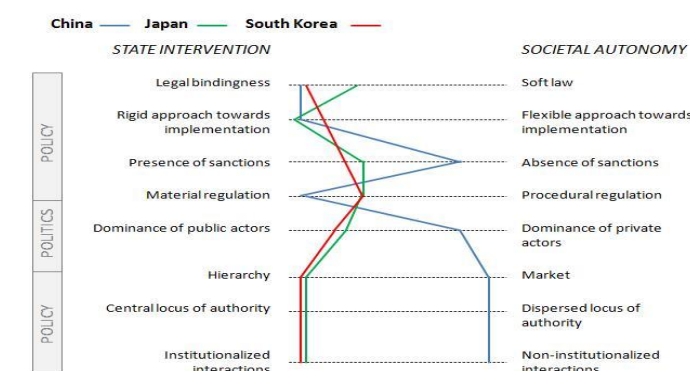
Main Facts

E-waste in China is regulated according to five, legally binding, regulations, measures, ordinances, and policies. A focus is put on the regulation of hazardous substances, recycling activities, and waste imports. These legally binding instruments prescribe clear material standards and call for a rigid approach towards implementation, leaving no flexibility for actors. Violations are defined, the extent and responsibility of sanctioning is however often unclear. Despite its formal dominance of public actors, the system is dominated by private actors: consumers and the informal sector for e-waste treatment. This entails the fact that market forces influence the e-waste management process

substantially. The locus of authority is not only dispersed among various state entities but also among private actors who interact through non-institutionalized means. In general it can be said that the Chinese e-waste management system is marked by strong discrepancies between formal rules and the actual situation.

Japan's e-waste management system functions according to two laws, one of legally binding nature and one representing a soft law instrument. The laws stipulate recycling fees, recycling rates, and regulate responsibilities of producers and consumers. Clearly defined standards call for a rigid approach towards implementation, also for soft law instruments. Sanctions are defined clearly; implicit sanctioning however also exists in the form of reputation mechanisms. The system is dominated by the state, i.e. public actors, namely the Ministry of the Environment who dictates the hierarchy of e-waste management. This causes the locus of authority to be highly centralized within the central state and calls for institutionalized interactions among actors.

South Korean e-waste management is regulated according to one legally binding instrument. The law mainly restricts the content of hazardous substances within electronic products and lays responsibility on producers. Clear material standards call for a rigid approach towards implementation and sanctions are clearly defined. Public actors, i.e. state actors, dominate the e-waste management process and decision making is structured hierarchically. This entails a highly centralized locus of authority and institutionalized interactions.



Results

The analysis of the three East Asian e-waste management systems brings forward that Japan and

South Korea are located on the state intervention side of the spectrum while China is located on the societal autonomy side.

The main similarities between the three systems lie in the policy dimension. All three systems show a dominance of legal bindingness, a rigid approach towards implementation, and regulation through strict material standards.

The main differences lie in the politics and polity dimensions. While Japan and South Korea function quite similarly in these two dimensions, China diverges to a great extent. Japan and South Korea both share a common approach regarding actor involvement: it is public actors who dominate the process. China's system on the other hand is dominated by private actors: consumers and the informal sector of e-waste treatment. Additionally Japan's and South Korea's system is managed in a hierarchical way by a highly centralized authority, the state, and functions according to institutionalized interactions. For China's system the opposite applies: market forces substantially influence the e-waste management process, the locus of authority is dispersed, and most interactions happen in a non-institutionalized manner.

Due to these highly diverging systems an East Asian mode of e-waste governance cannot be detected.

References

All references can be found in the full version of the MA thesis available at <http://othes.univie.ac.at>

About the Author

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