



## **GlobalMBA Cohort 2013/14: Abstracts of Global Business Team Projects**

- **“The Impact of Culture on E-waste Management: A Comparative Study of E-waste Recycling Systems in China, EU and USA”**

Jasenka Mehic, Jona Schneider, Sijie Huang (Anita), Reeann Hansen

*Today's society is increasingly driven by technological advancements, paving the way to new markets and changing the behavior of existing ones. Devices are becoming easily replaceable and more affordable, increasing the electrical and electronic waste (e-waste) worldwide. E-waste contains hazardous material harmful to the environment and, if not disposed of properly, dangerous to human health. However, once e-waste has been recognized as not only harmful for the environment but also as a valuable source for raw materials, governments and producers worldwide started acting upon it by creating directives, implementing e-waste management systems and educating consumers about the issue. Research has shown that e-waste management is a complex platform and differs widely amongst countries and regions. Therefore, this paper aims to answer the questions: 'How electronic waste is managed in the three major economic regions, China, Europe and the USA, in terms of legislation and implementation, how does culture serve as the underlying reason for these differences and what do these differences tell us about the future of electronic waste management?' Despite having clear benefits to e-waste recycling, there are still relatively low e-waste collection and treatment rates in developed countries and even more so in less developed countries. This paper explores how the different situational- cultural and individual- driven factors have influenced the development of e-waste implementation in the specific regions. Using relevant primary and secondary data, it can be concluded that distinct e-waste management systems have been implemented in the respective three major economic regions, due to differences in legislations, infrastructure, environmental awareness, communication and other cultural aspects. A combination of numerous reasons and motivations for the producers (e.g. profit, politics, wealth, etc.) in given cul-*

tures appears to be crucial for a more or less successful implementation of an e-waste management system. Yet, culture in businesses, let alone industries, is still significantly overlooked as a viable reason to inconsistencies.

- **“Sustainability in China’s Electronics Industry – A Micro-Level Perspective”**

Luke Barnhill, Huiying (Priscilla) Qi, Agnieszka Soporowska, Sebastian Wuerz

*This paper provides an overview of the Electronics Industry in China. It shows composition, characteristics, trends and state of affairs of the industry and deals with the topic of sustainability within the sector. The situation in the city of Dalian is going to be examined and how policies on a local level in China can have an effect on sustainable development. Intel is used as an example for the applied measures since they just opened a production plant in the city. Furthermore, Lenovo and Huawei, two of the Chinese global players in the electronics industry are used as the prime examples for the challenges, the development and the future outlook regarding sustainability measures. The emphasis here is not only focused on China but also worldwide. The impact on economic, social and environmental aspects will be examined and conclusions will be drawn whether that is a topic to consider in the near future for companies in this sector.*

- **“Competitive Strategies and Market Opportunities in the US and the EU Photovoltaic Sectors”**

Sunny Cavan, Sebastian Cremer, Łukasz Lothammer

*The thesis answers the following research question: In what ways can the US and the EU maintain, regain or sustain competitive advantage using current and emerging opportunities in the global photovoltaic market? This question was answered with a presentation of Porter’s Diamond of the competitive advantage of nations for both the US and the EU. This question was also answered using a TOWS analysis to link these entities’ strengths with the opportunities presented in the market. From the Porter’s Diamond, it was revealed that the EU has high skilled, productive labor, focuses on differentiation strategies and collaboration, and demand is strong. The government is an important supporter of the competitive advantage. The US’s competitive advantage is in strong knowledge development and protection, diversification and vertical integration, technology development and business collaboration, and demand which is growing partly due to government support, and starting to grow without. From the TOWS analysis, it is clear that business collabora-*

*tion is important for the US and the EU if they want to take advantage of the current PV industry opportunities. It is also clear that technology plays a large role in competitive advantage, including new innovations. Directions of future research include: using photovoltaic arrays to help restore brownfields and other damaged land, to look more deeply at business collaboration, crowdsourcing, crowdfunding, and at other community solar projects.*

- **“The Rise and Struggle of China’s Photovoltaic Industry: Background, current challenges, and future prospects”**

Alissa Birkendahl, Alexis Vigil, Eduards Timofejevs, Heda Chen (Kane)

*China’s role in the global photovoltaic industry has headlined multiple media outlets in recent years, regarding its dominance in trade, the role of its government’s intervention, the globalization of the production value chain, and the strategies and challenges of its local firms. The purpose of this thesis was to complete an updated industry analysis utilizing the framework of Porter’s Diamond model in order to determine the main drivers of the industry’s rapid growth, as well as its recovery from recent global challenges. Consequently, the researchers found the strongest forces to be the central government and its Five-Year Plans, factor conditions of production, and more recently, demand conditions and backward and forward linkages. Within this newly formed photovoltaic cluster, the five generic forces for local firms include a moderate bargaining power of suppliers that is expected to fluctuate with future demand, a high bargaining power of buyers due to feed-in tariffs, a low threat of new entrants due to high entry barriers, and a moderate threat of substitute energy sources, summing up to create a transitioning competitive rivalry from one based on cost leadership to one that encourages vertical integration and innovation. As China is now the world’s largest producer and consumer of photovoltaics, the researchers’ recommendations for its photovoltaic industry to sustain its competitiveness on a global scale include: a decrease in dependence on government support, the diversification of its exports and thus becoming recognized as a market economy, a continuation of the cluster effect, and the promotion of innovation.*

- **“Innovator vs. Imitator: redefining concepts of innovation using the example of the Chinese Photovoltaic Industry”**

Hannah Hordt, Cristina Johnson, Radosław Oleksiak, Wanning Sun

*China, currently the world's largest exporter, aims at shifting the foundation of its economic success from manufacturing Western goods to domestic high-technology production. Technology transfer and foreign investment have supported the notion of China as an imitator of Western technology. This dynamic of international economic relations is also reflected in the Photovoltaic industry, based largely on knowledge and investment intensive R&D efforts, and characterized by fast growth and accelerated internationalization. This thesis is based on the hypothesis that the economic success and competitiveness of the Chinese Photovoltaic industry cannot be based on mere imitation. It analyzes whether instead a distinct non-Western or Chinese way of innovation is driving China's success and explores in how far the idea of China as an imitator is derived from narrow Western definitions of knowledge creation and innovation. The analysis of empirical examples and in-depth case studies of five diverse companies from the Chinese Photovoltaic industry has shown different indicators of innovation ranging from traditional ones, such as incremental technological innovation, as well as indicators that do not fit into dominant concepts, such as process or re-innovation. The thesis concludes that the idea of Chinese Photovoltaic companies as merely imitative and not innovative cannot be substantiated. Chinese manufacturers are on the right path to be more widely recognized as innovators in the long term and the transnational nature of R&D activities and value chains in global industries needs to be translated into more integrative and collaborative actions by Western players to retain their competitiveness.*

- **“An Analysis of Informal e-Waste Recycling Practices in China”**

Louisa Lies, Jason Wayne, Yifei Wang (Murphy), Daniel Nicota

*E-waste is a topic that is acknowledged by many, however, fully understood in all of its complexities by only very few. E-waste is defined as the collection of discarded electrical and electronic devices. This thesis group set out to conduct an in-depth analysis of informal e-waste recycling in China and to determine if that analysis, compared to a more brief analysis of the formal electronics recycling sector in China, could lead to determining ways/means/strategies for mitigating the harmful side effects of improper electronics recycling practices. The background for this analysis rests on the significant growth of the*

*Chinese economy over the past decade and the concurrent growth of electronics consumption, disposal and recycling in China as well as worldwide. Discarded electronics create enormous waste streams of glass, metals, and plastics that are the basis of a very a lucrative industry. Furthermore, e-waste recycling produces sought after raw materials. In the instance of China, demand for these raw materials is enormous. The supply of e-waste matched with the demand for profit and new raw materials sets a platform for enacting the full circle by any means necessary, which includes methods, harmful to the workers involved, and the surrounding environment. This group has laid out several approaches in which China can mitigate the harmful side effects of improper electronics recycling beginning with merging the informal and formal economies and further emulating successful formal strategies of other nations. As technology advances and formal recycling practices are widely learned, the ecosystem of electronics consumption, disposal and recycling can be a profitable and sustainable industry.*