IMPLICATIONS OF SOCIAL RESPONSIBILITY DISCLOSURE ON GLOBAL PRODUCTION NETWORK
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Abstract
This paper aims to discuss effectiveness of social responsibility disclosure in promoting global production network. Through a critical review on the theoretical development from supply chain to global production network, the global supply chain management of Apple Inc., as a case, is investigated, with focus on corporate and NGOs’ social disclosure on the environmental and labor rights’ issues of its suppliers in China. The paper concludes that effectiveness of corporate social disclosure on global production network is doubted, however, NGOs’ activism can effect changes of the status quo.

Key words: global production network, social responsibility disclosure, NGO, Apple Inc., China

1. INTRODUCTION
Informed by Keith Oliver in 1982, the concept of supply chain (SC), referring to the whole business processes from original suppliers to end users, has entered the public domain, and then a large number of articles and books have come out on the subject. The worldwide business sectors have realised that they need to rely on effective supply chains to compete in the global market (Drucker 1998). In 1985, Michael Porter developed the conception of supply chain (VC) to a new level and proposed the concept of value chain by introducing the ‘value-added’ process in supply chain. With the development of globalization and internalization, the increasingly significance of export-oriented industrialization has made integration of the global economy (Sturgeon 2001). With an increasingly body of work analysing globalization processes from the perspective of value chain, the concept of global commodity chain (GCC) was proposed by Gary Gereffi in 1994, by introducing input-output structure territoriality, governance and institutional framework into supply chain (Gereffi et al. 2005). After the 1990s, the ‘big-government’ age has gone, and there has been a shift of power gradually from government to governance (Evans 2012). In 2005, David Levy used the term of global production network (GPN) to reinterpret the notion of GCC and views expansion of GCCs as ‘the political arenas engaging a wider array of actors and encompassing a more multi-dimensional and multi-level approach to power relations’ (Levy 2005, p. 1). Within the conception of GPN, not only governments and corporations, but also non-governmental organizations have been involved into the global supply chains of international businesses. NGO activism, especially through releasing counter corporate information, has played an increasingly significant role in improving the supply chain management of multi-national corporations. In this paper, based on a theoretical development of global production network and some theoretical illustrations on connections between social disclosure and global production network, an empirical case study on the global supply chain of Apple Inc. is conducted, with sensitive to its upstream suppliers in China, to investigate effectiveness and implications of social responsibility disclosure by both corporations and NGOs on Apple’s supply chain management in China.

2. THEORETICAL DEVELOPMENT OF GLOBAL PRODUCTION NETWORK
2.1 Supply Chain Management
The term supply chain management (SCM) was coined and illustrated by the Keith Oliver in 1982.
They used the term of SCM to express the demand of integrating the key business processes including sourcing and procurement, production and logistics management activities, from end user through original suppliers (Oliver & Webber 1982). Oliver proposed an integrated approach to inventory management, as analysing the management of a chain of supply, to balance the trade-off between client’s goals and the needs of the client’s customers, and he named this approach, and he named this approach as SCM. Handfield and Nichols’s book in 1992 provided a good start point for more readers and managers to access and defined supply chain as following:

The supply chain encompasses all activities associated with the flow and transformation of goods from raw materials (extraction), through the end user, as well as associated information flows. Material and information flow both up and down the supply chain (Handfield & Nichols 1992, p. 2).

SCM is the integration of these activities to achieve a sustainable competitive advantage. In this description, the supply chain can be viewed as a linear process, addressing both the downstream and upstream sides. And this definition involves both material and information dimension associated with the product and the relationship dimension, as concerns the actors involved (Ebinger, Goldbach & Schneidewind 2006). Ross (2000) illustrates the complexities in defining supply chain, which involves a complex matrix of applications and can be defined in various ways, and views SCM as a growth-oriented, dynamic, competitive and comprehensive management approach in the context of globalization, change and uncertainty.

2.2 Value Chain

In 1985, Michael Porter proposed an important concept of value chain (VC), which addresses the ‘value-added’ process in supply chain, in his well-known book Competitive Advantage. According to Porter, corporations should develop a unique competitive advantage for creating higher added value for their goods and services so that a series of value-added process can be established, that is, the value chain. Business can secure this competitive advantage through managing the linkages successfully between the internal functions in a way which creates value for the company’s customers (Bair 2009). as described by Porter, corporation’s value chain model consists of two parts: ‘primary activities’ including inbound logistics, operations, outbound logistics, marketing & sales, and after sales service; as well as ‘support activities’ involving firm infrastructure, human resource management, technology, and procurement (Porter 1986, p. 14). For Porter, value chain can be viewed as a tool for discussing the relationship between various actors and activities within an organization. Compared with traditional SCM, according to Walters (2004), value chain provides a model involving both customer and corporate expectations and a method to undertake strategic and operational analysis of an opportunity at both micro level of activity and macro level of process.

2.3 Global Commodity Chains

Since 1970s, globalization has become a catchword for the international economy in the era of new economy, where nearly all nations have become more interdependent through flows of financial capital, goods and service. Globalization has promoted the development of two kinds of suppliers in manufacturing industries including local supplier and global supplier. Global supplier as well as global supply chain has become important issues for today’s businesses. With development of globalization and internalization, a global perspective should be considered into supply chain management. In 1994, the concept of global commodity chains (GCCs) was proposed as:

[S]ets of inter-organizational network clustered around one commodity or product, linking households, enterprises, and states to one another within the world-economy (Gereffi & Korzeniewicz 1994, p. 2).

From Gereffi’s description, it can be concluded that GCCs approach not simply encompasses the chains of value-adding activities, but considers more complex political economic systems in which markets are constructed within the sociopolitical context. Gereffi defined GCCs governance as ‘authority and power relationships that determine how financial, material, and human resources are allocated and flow within the chain’ (Gereffi & Korzeniewicz 1994, p. 97). Building on the concept of
governance, Gereffi has made the very useful distinction between two types of value chains. According to Gereffi (1994 & 2001), the producer-driven commodity chains and the buyer-driven commodity chains are separately rooted in different industrial sectors, both of which are beneficial for evaluating and analysing global industries: for producer-driven chains, they are characteristics of capital-intensive industries where powerful manufacturers control and often own several tiers of vertically suppliers; for buyer-driven chains, they are features of those industries in which far-flung subcontracting networks are managed with various degrees of closeness by marketers, retailers as well as intermediaries. As shown by Gereffi (2001, p. 1621), they are different in their ‘core competencies at the firm level and entry barriers at the sectoral level’, which provides two perspectives for research on integrated business chains from two ends of supply chains.

2.4 Global Production Networks

In 2005, David Levy reconceptualized the conception of global production network (GPN) governance theory to emphasis some limitations perceived in GCC framework and examines the links that ‘GPNs create not just across economic space, but also across social and institutional contexts, at national, regional, and sometimes sub-national levels’ (Levy 2005, p. 3). It is also intended to address the dynamics and path-dependencies of production network as well as the strategic autonomy of firms in creating innovative forms and thus reshaping production networks. He introduces an explicit international dimension into supply chain and builds up the cross-border production networks in global market. Levy uses the rebuilt term GPNs to re-interpret the concept of GCCs, and views expansion of GCCs as ‘the political arenas engaging a wider array of actors and encompassing a more multi-dimensional and multi-level approach to power relations’ (Levy 2005, p. 1). More importantly, Levy (2008) employs a neo-Gramscian approach to develop an integrated analytical framework on GPNs, introducing political, economic and social factors into consideration, which provide a theoretical foundation for further research on environmental governance within global supply chain. Thus, GPN framework rebuilt by Levy, compared with existing analyses of production networks, sees GPNs as ‘political arenas engaging a wider array of actors, and encompassing a more multi-dimensional and multi-level approach to power relations’, in which NGOs play an increasingly important role in governance (Levy 2005, p. 4).

2.5 Social Disclosure and Global Production Networks

Theoretically, the legal obligations for social and environmental impacts could be extended from the lead company to its suppliers, especially for international corporations, since the lead company is able to maintain economic control over its supply chains when outsourcing, however, as a result of different regulatory and cultural environment, the lead company has to manage supply relationships subject to different circumstance, which results in difficulties and problems within the management of international production networks (Sobczak 2006). Especially in some international outsourcing decisions, lead companies normally give the priority to opportunities of low cost production rather than social and environmental initiatives in the supply chain, which is avoided to be mentioned in their social disclosure (Preuss 2001). Previous research suggests the external stakeholder pressure as the main motivation for the lead company to pay attention to social responsibility of its supply chain, and NGO can have direct and indirect impact on changes of shareholder behaviour and consumer perception through disclosing counter corporate information (Theyal 2001). However, stakeholder interventions on ethics issues in supply chain management are focusing and limited on a subset of companies, which leads to probability and significance of their pressures on corporate behaviour is possibly influenced by the characteristics of the company and industry in which it operates (Hall 2000). In the following section, an empirical case on the implications of NGO’s counter corporate social disclosure is discussed, with particular focus on the international corporation Apple Inc.’s environmental and labor rights issues in its global supply chain in China.

3. EMPIRICAL CASE ON APPLE INC.

In this section, problems of the global supply chain management of Apple Inc. in China are investigated, with particular focuses on Apple's suppliers' corporate environmental and social
disclosure and NGOs' social disclosure on the environmental and labor rights issues in the supply chain, as well as discussing implications of social responsibility disclosures on Apple's global production network. Methods used for case study mainly include qualitative analysis on corporate social responsibility disclosures through publishing social responsibility or sustainable development reports, and NGOs' social disclosures through releasing counter corporate information based on their independent investigation.

Apple Inc., founded in 1976, is an American corporation headquartered in Cupertino, California, which designs, develops, and sells consumer electronics, computer software, and personal computers. In China, there are a large number of companies manufacturing and assembling Apple's products although Apple has never published its supplier facilities in details. With exposure of social and environmental problems concerning supply chain of Apple in recent years, in 2006, due to tremendous pressure from negative publicity of poor working conditions in Foxconn, which has been proven to be a large and important supplier of Apple in China, Apple began to release its Supplier Responsibility Progress Report every year, mainly focusing on introducing its audit process, code of conduct, working standards, and discloses overview of audit results as well as plan for improving supplier management system. Although several core violations were disclosed in Apple's Supplier Responsibility Progress Reports based on Apple's audit, detailed information about facilities involved in the violations was not clear enough, and some important audit reports were not publicized. In 2012, apart from releasing Supplier Responsibility Progress Report, Apple also published its supplier list in 2011, which was the first time for Apple to publicize its supplier information, and according to Apple, all 156 suppliers in the list represent 97 percent of Apple’s procurement expenditures for materials, manufacturing, and assembly of Apple’s products worldwide. However, the list only published the name of parent companies, and details about specific facilities were not included.

3.1 Environmental Problems of Apple's Supply Chain in China and Relevant Social Responsibility Disclosure

In 2011, thirty-six Chinese domestic NGOs cooperated and launched Green Choice Initiative to the Chinese public in encouraging customers' green choices in purchasing, and three of them, Friends of Nature, Institute of Public & Environmental Affairs and Green Beagle jointly released an investigation report The other side of Apple on January 20th and exposed problems of Apple’s supply chain management in China towards supply chain occupational safety, supply chain environmental protection, and supply chain labor rights and dignity. Since Apple has not disclosed detailed information about its specific supplier facilities in China (except for facilities involved in Foxconn suicides and Wintek poisoning incidents), investigation of NGOs was based on suspected Apple's supplier facilities with credible evidence. Environmental problems in the supply chain were disclosed in NGOs' reports through five cases about pollution emissions and environmental penalties, and the report also disclosed Apple’s negative response towards queries on environmental problems in its supply chain in China and required Apple to explain about its supply chain problems, publish supplier list and accept further investigation on relevant issues (Friends of Nature, Institute of Public & Environmental Affairs, Green Beagle 2011). Then, based on further investigation on more suspected Apple’s supplier facilities in China for more than five months, on August 31st, five domestic NGOs including the three mentioned above together with Envirofriends and Green Stone Environmental Action Network, published another report The Other Side of Apple II: Pollution Spreads Through Apple's Supply Chain focusing on exposure of environmental problems within Apple’s China’s supply chain in six provinces, and twenty-seven suspected Apple suppliers were confirmed to be responsible for environmental problems brought by their behaviour. Several quantitative data and pictures are disclosed in the report for supporting NGOs' findings, and Apple was compared with other companies in the same industry (such as Siemens, Vodafone and Nokia) towards responses and actions concerning environmental problems in the supply chain (Friends of Nature, Institute of Public & Environmental Affairs, Green Beagle, Envirofriends, Green Stone Environmental Action Network 2011). As shown in the social responsibility disclosures of the two reports released by NGOs, several environmental violations were committed by suspected Apple suppliers in China. For instance, Lian Jian Technology and Dongguan Wanshida were found not carrying out appropriate measures to deal
with hazardous waste materials and waste water; Dongguan Shengyi, Nanbo Group and Unimicron Electronics were reported to repeatedly exceeded national discharge standards and even penalized by the local Environmental Protection Bureau; Guangzhou Nansha and Meiko Electronics (Wuhan) were rated as 'yellow companies' in environmental protection supervision as a result of their environmental violations or problems etc. (Friends of Nature, Institute of Public & Environmental Affairs, Green Beagle 2011, pp.13-14; Friends of Nature, Institute of Public & Environmental Affairs, Green Beagle, Envirofriends, Green Stone Environmental Action Network 2011, pp. 8, 10, 17-19).

With regard to corporate environmental and social disclosure of Apple, although it has begun to publish Supplier Responsibility Progress Report since 2007, it has never disclosed environmental violation of any facilities in its supply chain in China before 2012. However, possibly constrained by pressures from social disclosures of Chinese NGOs, Apple disclosed several environmental violations of facilities in its 2012 Supplier Responsibility Progress Report. According to the 2012 Report, efforts were made on strengthening supplier supervision and policies towards environment protection in its whole supply chain, and 229 audits on suppliers concerning occupational health and safety, environment protection, human right etc. were conducted in the year of 2011, increased 80 percent over 2010. Based on findings of audits in 2011, facilities where repeat audits were conducted consistently showed fewer violations, and the vast majority of them have gained improvement of audit scores (Apple Inc. 2012). At the same time, in the report, Apple declared that specific environmental audits have been conducted on fourteen Chinese suppliers in the past year, in order to address specific concerns on the environmental problems in the fourteen suppliers, which were included in the exposure of NGOs' social disclosures. Apple also introduced its audit process on the fourteen suppliers, including onsite inspections of wastewater treatment facilities, air emissions handling, solid waste disposal, and noise abatement systems both at the facility and in the surrounding areas based on interviews with local residents and documentation reviews. It argued that Apple has been working with its suppliers for correcting issues and a broad environmental audit on its global production network would be conducted in the following years, although detailed report on the specific environmental audits were not available to the public (Apple Inc. 2012).

In responding to NGOs' social responsibility disclosures concerning environmental problems of Apple's supply chain in China, in October 2011, Chinese official media, China Central Television dispatched journalists for on-site investigation on environmental issues exposed in NGOs' investigation reports, and confirmed and reported environmental problems of several facilities through special television programs. Besides, environmental investigation of Chinese domestic NGOs on Apple's supply chain has also gained attention and supports from well-known international NGO, Pacific Environment. After publication of Chinese NGOs' investigation reports, Pacific Environment has contacted Apple for several times for requiring them to respond queries from Chinese NGOs about its supply chain environmental problems, and appealed American customers to apply pressures on Apple and require its response. However, influences of NGOs' reports on the public in China and negative effects of suppliers' environmental problems on sales of Apple products in China are unclear.

3.2 Employee Management Problems of Apple's Supply Chain in China and Relevant Social Responsibility Disclosure

In Chinese domestic NGOs' first investigation report on Apple supply chain, supply chain occupational safety and supply chain labor rights and dignity have been reported, through case studies on pathogenic working environment and violations on rights and dignity of workers in suspected Apple supplier facilities in China with credible evidence. For example, toxic chemicals were found being used in production of Apple products without notifying employees and appropriate protection equipment in many suspected suppliers such as Wintek, Lian Jian Technology, Dongguan Wanshida, Foxconn (Chengdu); overtime working and poor working conditions were found and reported from many Apple supplier facilities in China, such as Dongguan Wanshida and Foxconn; violations on dignity of female employees due to lack of trade unions were also reported in Dafu (Changshu) through investigation, which have attracted attention of local government (Friends of Nature, Institute of Public & Environmental Affairs, Green Beagle, Envirofriends, Green Stone Environmental Action Network 2011, pp. 8, 12-13, 16-18). In Apple Supplier Responsibility 2012 Progress Report, Apple
reported that 22 supplier facilities committed core violations towards labor and human rights issues, however, the name of facilities involved in violations and detailed information about the violations were not disclosed (Apple Inc. 2012).

Apart from disclosing some labor rights-related violations, in the 2011 Report, Apple responded to Foxconn suicides for the first time and disclosed its investigation process in details. Foxconn, as the largest supplier of Apple in Mainland China, is involved in several controversies relating to its employee management. From January to November 2010, fourteen employees of Foxconn killed themselves in the factories, and the news of Foxconn’s over-intensity work was widely spread on the Internet. Apple claimed in their report that an independent team visited Foxconn Shenzhen facility in July 2010, surveyed more than 1000 workers and evaluated Foxconn’s management crisis. Based on the audit findings, the team commended Foxconn to take quick actions such as hiring psychological counsellors, establishing a 24-hour care center and even attaching large nets to the factory buildings to prevent impulsive suicides (Apple Inc. 2011, pp. 18-20). Then in 2012, under great pressure from the public, Apple hired the famous international NGO, Fair Labor Association (FLA), to conduct an audit on working conditions at Foxconn. Through an independent investigation in February 2012 lasting for almost one month on three Foxconn facilities in Shenzhen and Chengdu, FLA published investigation report in March. Although Foxconn has begun to release Corporate Social and Environmental Responsibility Report since 2007 to proclaim its responsibilities and actions towards employ management, however, compared with FLA's disclosures, it is clear that fault and inconsistency exists in Foxconn’s social disclosure, in all six investigated aspects concerning employee management (including hours of work, compensation, social insurance, interns, industrial relations, and health, safety and environment) (Fair Labor Association 2012a). Foxconn and Apple accepted FLA's suggestions on a comprehensive remediation plan in the following 15 months, however, based on verification reports published by FLA through being invited to verify the implementation status of remedial actions of Foxconn, although progress has been made concerning working hours, the three facilities are still not in compliance with Chinese labor law in terms of hours of work (Fair Labor Association 2013b).

4. CONCLUSION

This paper illustrates the theoretical development of global production network and values the role of NGOs in international supply chain governance. Based on the literature review around supply chain management, this paper, with the empirical case studies on environmental and labor rights problems in Apple's international supply chain in China, concludes that effectiveness of corporate environmental and social disclosures on promoting global production network is doubted, and social responsibility disclosures of corporations mainly serve for protecting interests of shareholders in coping with external pressures and improving corporate reputation so as to gain more benefits for operation. Besides, concerning Apple supply chain problems in China, the reason why Apple has always been turning a blind eye to its suppliers’ social and environmental troubles in China is mainly because of weak consumer pressures. According to Chan and Lau (2001), Chinese consumers are less likely than American consumers to translate their concerns and preferences on social and environmental aspects into their purchasing behaviour. Especially when Apple’s products have been considered as a fashion or even a necessity pursued by a large number of young people in China, Apple has no need to worry about the negligible negative effects of social and environmental problems in its international upstream supply chain on sales in China. As a result, due to poor performance of corporate social disclosures on developing global production network, NGO activism effect positive changes to change the status quo through disclosing counter corporate information and releasing independent social responsibility reports against corporate irresponsible behaviour. Especially through the case studies, it is clear that NGOs' social responsibility reports on exposing environmental and social problems in Apple's supply chain in China did attract attention widely, including the public, local governments, the public media, customers and NGO abroad etc. At the same time, they applied pressures and urged corporations involved to take actions in changing their behaviour and taking some social responsibilities.
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