

**Corporate Transformation Towards Sustainability:
The Case of the Indonesian Pulp and Papers Industry**

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Abstract

This paper explores the process of sustainability transformation on pulp and paper industry in Indonesia, including the factors driving sustainability, challenges of integrating sustainability, and current best practices in the industry. We used a qualitative research methodology, interview and examine sustainability reports of APP and APRIL, two leading pulp and paper companies in Indonesia. We find a total of 4 drivers and 2 main challenges in the transformation process. The four drivers are: risk and risk reduction, expectation of key stakeholders, i.e., market, consumers, investors, society; competitive advantage, and top management. The two main challenges are the initial investment required and the lack of competence to manage the alleged paradox of improving environmental, social, and economic goals at the same time. However, despite the challenges presented, we find that the transformational process has resulted in a positive impact for the companies' triple bottom line.

Keywords

Corporate transformation, sustainability, sustainable forest-based industries, PEFC, IFCC.

Introduction

Over the last few years, sustainability topics have gained a significant amount of attention globally. The rapid increase in global sea level and temperature, and concern over quality of air and water, have created a demand to shift towards a more ecological-friendly approach in all human activities. As a result, governments around the world have instituted sustainable policies ranging from international agreements, to national strategies, and environmental laws to achieve sustainable development (Howes et al., 2017). Likewise, global consumers, in both small and big markets, are also demanding and seeking products that care about the environment (Nielsen, 2018).

Businesses around the world must swiftly act upon the growing concern of sustainability to stay relevant in the future. This is true, especially for the pulp and paper industry, which has traditionally been one of the most environmentally sensitive sectors due to its heavy dependence on water, its use of energy, and the vitality of the forest ecosystem as a source of living for numerous creatures (Toppinen et al., 2017). Increasing environmental regulations, shift in market demand, and also community pressure (from both NGOs and local community) also plays a role for the industry to improve the environmental performance at all dimensions (Söderholm et al., 2019). According to Parida and Wincent (2019), sustainability will change the business landscape by demanding new skills and abilities of a company's resource base, however, transition toward sustainability is crucial to secure a source of competitive advantage and ensure long-term survivability.

This study analyzes how corporations working in the forestry and forest product industries respond to global sustainability drives. Focus is given to what transformation these

corporations need to undergo to meet internationally-recognized sustainability standards, against the backdrop of the industries' global market dynamics, especially that of the pulp and paper industry. The main tenet of the study is that corporate transformation towards sustainability requires not only an iron-clad commitment from all parties involved, but also long-term and painful hard work to change corporate culture, structure and practices at all layers of management, from the board of directors to the lowest-ranked employees.

Methods

In order to gain detail information on factors affecting corporate transformation toward sustainability, challenges and impacts of the transformation in the pulp and paper industry, we decided to choose a qualitative research method, considering it gives the opportunity to capture substantial meaning of the subject and enable to find sound explanations of motives on why an organization chose to transform (Peters and Simaens, 2020).

Focusing on qualitative research, we use a case study approach to answer our research questions as it allows us to investigate phenomena in the real-life context from multiple facets (Roome and Louche, 2016). In-depth interviews with key actors from various companies in the industry was conducted to collect valuable insights and information.

In-depth Interview Selection

The corporations selected for interview are APRIL and Asia Pulp and Paper (APP) groups of companies, two of the main players in the global pulp and paper industry. These groups were selected because they have shown enormous efforts and commitment in integrating sustainability into the whole operational and business model. Both companies supported and

embraced the UN's SDGs program into their strategy and key activities. APRIL has a 1 for 1 program (1:1 program), in which for every 1 hectares of Industrial Forest Plantation (HTI), it will conserve 1 hectares of forest. Likewise, APP has included sustainability indicators in its Key Performance Indicator (KPI) so the whole organization will always apply sustainability as its core value.

During the interviews, we focus on the corporate transformation that these groups implement, not only to understand the processes of integrating sustainability as a core value in its business model, but also to bring to light the best practice model to transform into a sustainable and eco-friendly business in the industry.

Results and Discussions

The landscape of global forest products industry

The global forestry and logging market reached a value of nearly \$535.96 billion in 2020, having increased at a compound annual growth rate (CAGR) of 0.8% since 2015. The market is expected to grow from \$535.96 billion in 2020 to \$726.51 billion in 2025 at a rate of 6.3%. The growth is mainly due to the demand for forestry and logging products which is expected to drive the growth of the market. The market is expected to grow from \$726.51 billion in 2025 to \$956.71 billion in 2030 at a CAGR of 5.7%.

Growth of the forestry and logging market in the historic period resulted from growth in residential construction activity, increasing demand for cruise ships, increased demand for tissue and paper products and economic growth in emerging markets. This growth was restricted by forest fires and geopolitical tensions.

Going forward, increasing construction of wooden buildings, adoption of automated forestry management, increasing use of biomass and increasing demand for wooden furniture are expected to drive the market. Stringent regulations, alternate construction materials, labor shortage and impact of COVID-19 are major factors that could hinder the growth of the forestry and logging market in the future.

The forest products sector is widely recognized for its net-positive impact on the environment, thanks to carbon absorption in lush forests, carbon sequestration in new wood-based buildings and durable goods, and low environmental impact of the industry's manufacturing practices. Leading the charge in manufacturing using the latest digital technologies, pulp and paper processing has been transformed so that it requires only low levels of energy, chemicals and freshwater.

Societal demand for sustainability has led to forest-based products dominating consumer markets and has enabled the industry to attract the most innovative and productive workers. Overall, the forest products industry has become the leading supplier to, and environmental conscience of, the rest of global manufacturing.

Over 60 per cent of the world's roundwood production originates from just eight sources: Brazil, Canada, China, the EU, India, Indonesia, Russia and the US. About half of this is accounted for by wood fuel and half by industrial roundwood.

Figure 1. Global production of wood fuel, 2000–2016

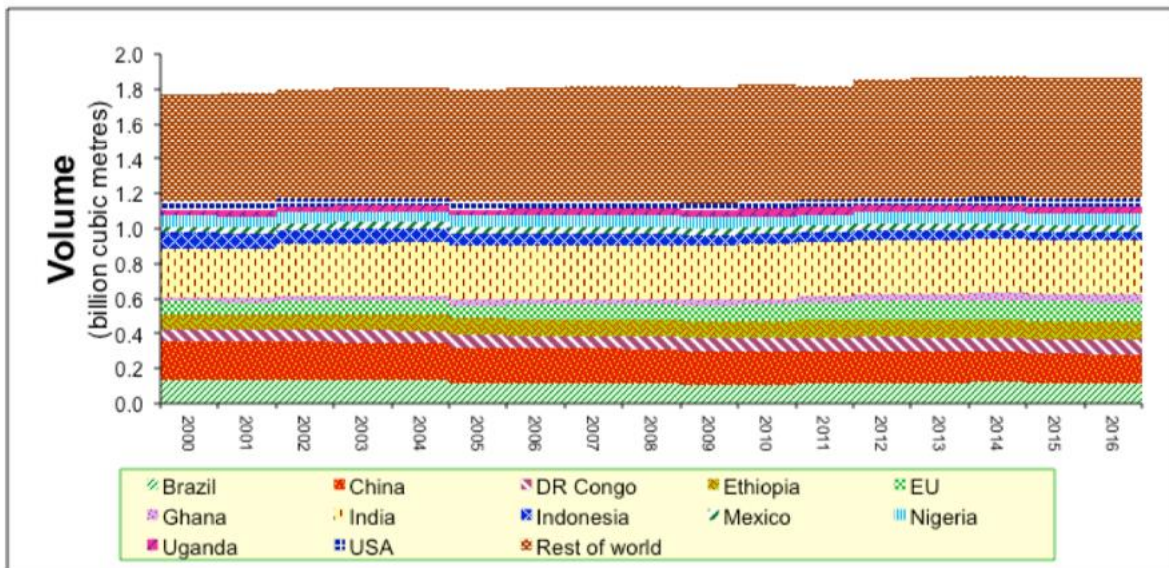


Figure 2. Global production of wood products (excluding paper and paper raw materials), 2000–2016

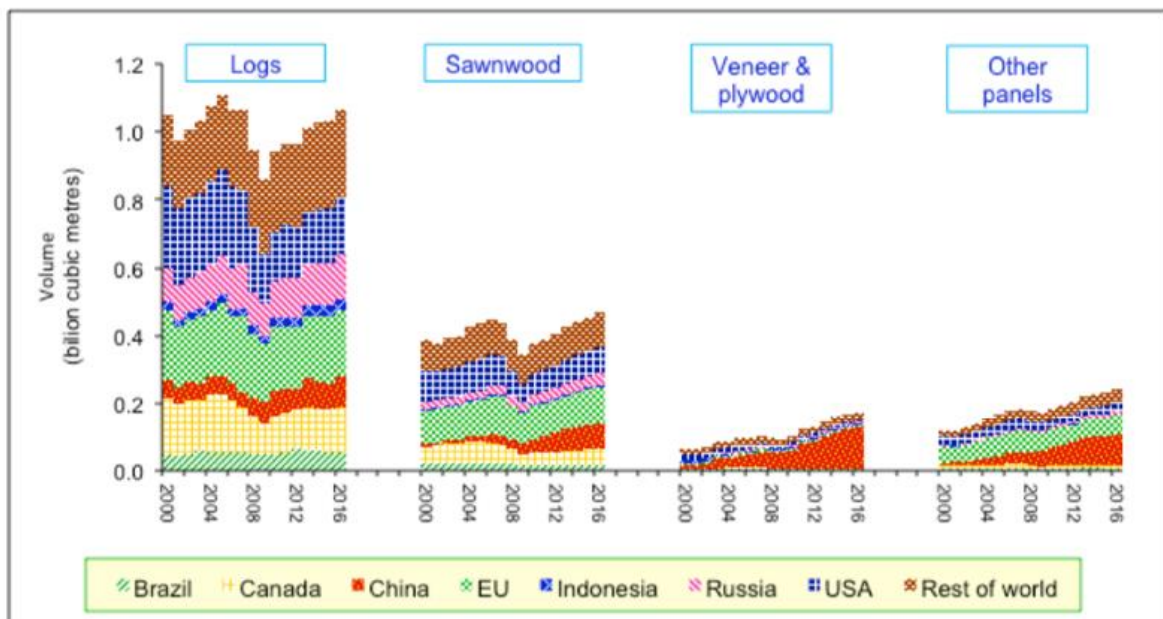


Figure 3. Global production of paper and paper raw materials, 2000–2016

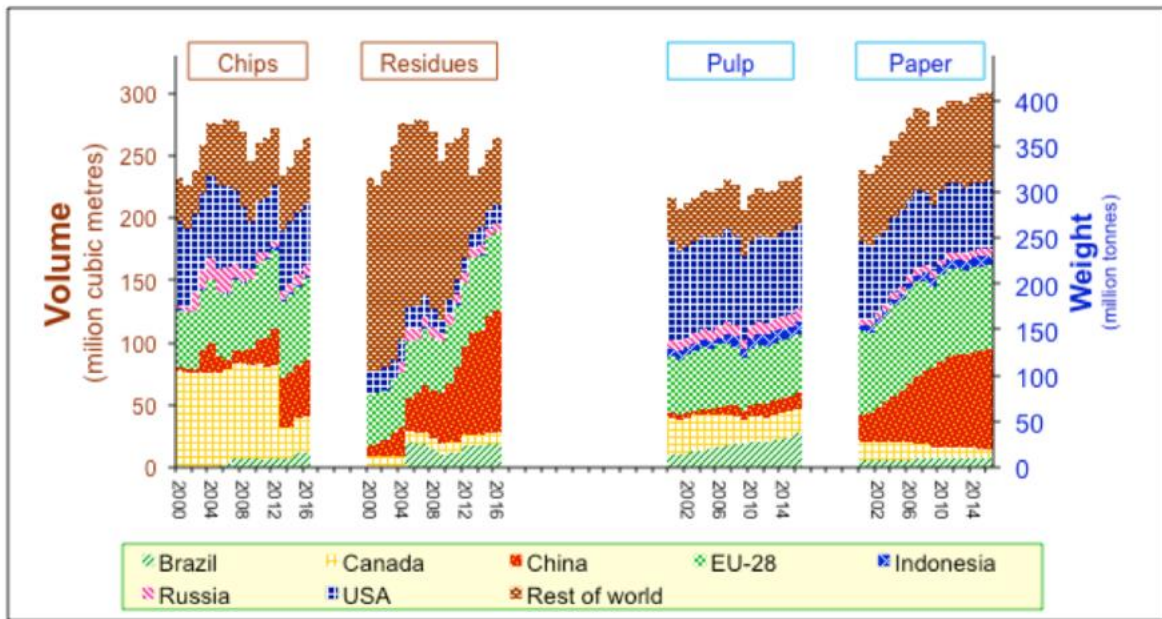
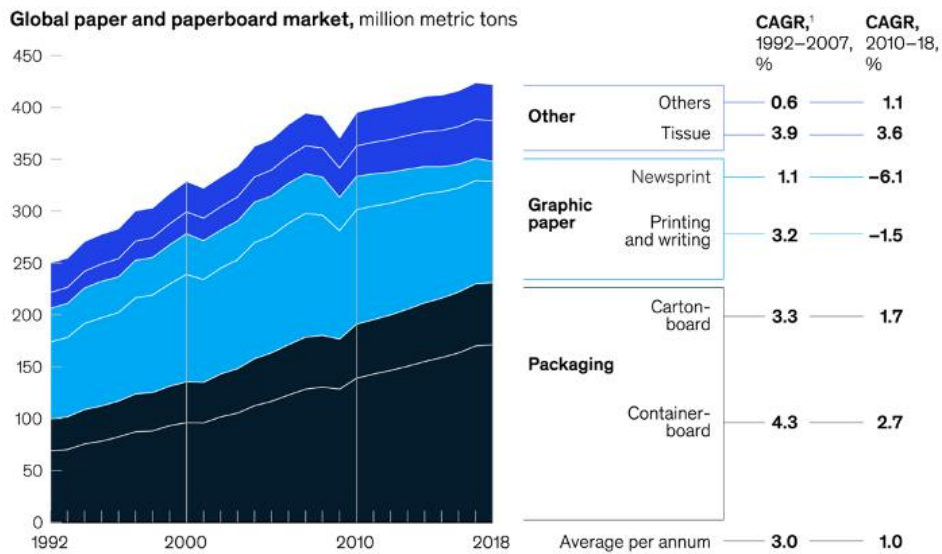
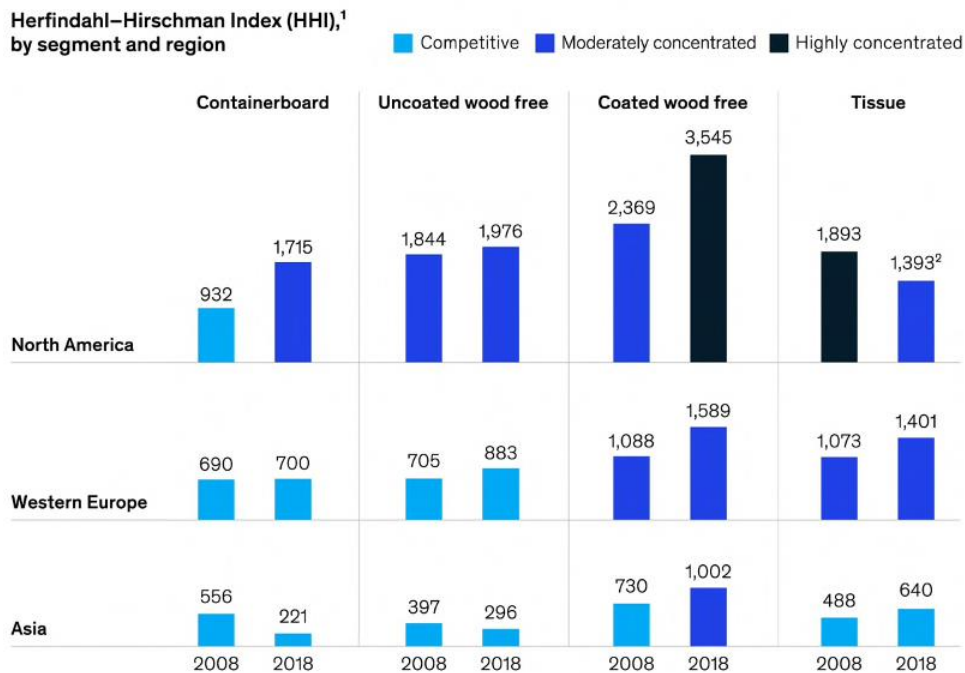


Figure 4. The Global Paper and Paperboard Industry



Source: Resource Information System Inc (RISI), 2019

Figure 5. Concentration of Paper and Forest-Products Companies



¹Σ[market share]², HHI <1,000 competitive, 1,000–1,800 moderately concentrated, >1,800 highly concentrated.
²At the next level of granularity, consumer tissue and away-from-home tissue are highly concentrated segments (HHI ~2,500).

Source: Brian McClay & Associates; Resource Information System Inc (RISI),
McKinsey Analysis

Why pulp and paper industry in Indonesia have to meet sustainability criteria

While global demand for forestry and logging products – including pulp and paper products – are expected to grow in the near future, concerns over the sustainability and negative impact of this industry towards the environment is consistently spreading in the market. Customers and stakeholders' expectations must be met by businesses in this industry, in line with the global call for Sustainable Development Goals (SDGs).

Simultaneously, Indonesia, as one of the major players in the forestry field, should also elevate its sustainability standard in accordance with the global benchmark. National pulp and paper industry must integrate sustainable management practices throughout its operations in order to remain competitive in the current sustainability-conscious global market. However, the importance of sustainability is not only limited to a company's competitiveness and economic

value, but also about how the company is able to increase the livelihood of its society and at the same time address the bigger picture of global climate challenge.

The need for corporate/culture transformation related to sustainability effort

The focus of this paper is sustainability, and methods for shifting our short-term economic “Business-as-usual” mindset to become a long-term environmental success story. As it stands now, we have, depending on sources, about 10 to 40 years before we reach a critical environmental benchmark: environmental, and thus, civilization collapse. While short-term business models may be beneficial for short-term, aggressive fiscal growth, these business models have, time and time again, proven to be detrimental to the safety and survival of our Earth. And while corporate growth and wealth accumulation are much more attractive goals and are markers of individual success, they are a blockage in our collective, societal success as a worldwide community. As inhabitants of our one Earth, we must shift our mindset from small-scale, individualized success stories to focus on a collaborative effort to save our planet from destruction, not only for our own survival, but for the survival of future generations as well. This corporate transformation must focus on sustainability efforts that work for all of us, and that benefit all of us. This transition is by no means an easy task, but is necessary and beyond critical at this point in time, as we are already on the brink of economic collapse.

“Corporate transformation” is a broad term that requires the participation of hundreds of varying industries. In this paper, we focus on the pulp and paper industry, and any possible changes it can make to become more sustainable. A widely criticized industry, pulp and paper gets its negative reputation from its well-known act of cutting down trees for the manufacturing of furniture, paper, etc. Additionally, it is a source of pollution and requires the use of large amounts of water in the process. The industry has a long way to go in terms of its sustainability efforts, but it is a necessary industry for a multitude of reasons: its creation of necessary

resources, its job production, its contribution to a country's GDP, its tax revenue opportunities, etc. It is extremely easy to criticize an industry as a whole for being unsustainable, but it becomes far more difficult to actually come up with viable solutions to make the same industry more environmentally friendly. However, in this time of critical need for sustainable business practices, we must try our best to put into practice our goal of turning the pulp and paper industry into a sustainable industry.

Limits to growth (MIT) and KPMG studies

While the topic of sustainability and the urge to shift to more sustainable business practices have become popularized in the last decade or so, the issue of the eventual depletion of our Earth's natural resources has been well-known and well documented for far longer. In 1972, an international team of researchers representing the Massachusetts Institute of Technology conducted a research study on the effects of rising "population, food production, industrialization, pollution, and consumption of nonrenewable natural resources" on our environment (25). This research study, published by the Club of Rome, is titled *The Limits to Growth*. Its findings necessitated the shift from our current world of overconsumption, economic growth, and positive feedback loops to a more enlightened social mechanism focusing on a "less is more" pathway to better sustainability practices. The technological improvements behind these sustainability initiatives might include "new methods of waste collection, to decrease pollution and make discarded material available for recycling"; "better product design to increase product lifetime and promote easy repair, so that the capital depreciation rate would be minimized"; "methods of natural pest control, based on a more complete understanding of ecological interrelationships"; "contraceptive advances that would facilitate the equalization of the birth rate with the decreasing death rate" (177).

However, Limits to Growth makes it clear that continuing our current wasteful practices will prove to have damning effects; namely, we are slated to experience a collapse of civilization by sometime in the 21st century because of an inevitable decline in “food production, industrial output, and ultimately population” (Herrington 1). Now, in 2021, we have reached a near-fatal benchmark for environmental catastrophes, thus proving the legitimacy of the 1972 study. This study, in its presentation, provides a perfect opportunity for an eventual follow-up study conducted sometime in the future, which was eventually achieved by Gaya Herrington of KPMG LLP. The follow-up study, aptly titled “Update to limits of growth,” was conceptualized during the COVID-19 pandemic. During government-mandated lockdowns, we experienced a one-of-a-kind environmental renewal as skies cleared up. However, Herrington noted society’s desire to return “back to normal,” which inspired the “Business-as-usual” (BAU2) model used in her study. The BAU2 model is the most popular societal model, and it outlines our priority of economic growth over environmental sustainability. “Update to limits of growth” corroborates Limits to Growth’s concerns, stating that we are, at this point, headed towards long-term environmental problems that ultimately threaten human civilization. It adds that we now have 10 years to reverse these man-made damages.

While finding sustainable alternatives to every industry requires a lot of research and economic analyses, on a micro level, we can focus on the pulp and paper industry.

In order to fill the research gap, we aim to produce a methodologically sound study on corporate transformation and change in business culture in the Indonesian Pulp and Paper Industry. Our first research question is *what are factors that drive corporate transformation in the pulp & paper industry?* A more elaborated secondary question is *what are the challenges of corporate transformation in the pulp & paper industry?* Then based on the results is *what are the impacts of corporate transformation for firms?*

Corporate culture transformation in pulp & paper industry

The industry regularly receives negative commentary on the industry's environmental impacts and a common misperception that paper products come from natural forests and lead to deforestation.

However, as a consequence of increasing awareness, a growing discourse regarding sustainability arose within pulp and community. Companies across all industries have started to implement sustainable approaches and align economic, social, and environmental responsibilities through their corporate culture transformation, taking into consideration not only increased profits and decreased costs, but also the sustainable development of the company itself and its environment.

In the framework presented by Dyllick and Muff (2015), it means progressively “moving from business-as-usual to ‘true business sustainability’” which focuses on the needs of the society and the planet. Triple bottom line (TBL) is a useful term to understand the concept of sustainability applied to companies, as it focuses on a company's management of economic, environmental, and social responsibilities and represents an attempt to coordinate them for a complete view of business performance (Elkington, 1997).

Porter and Kramer (2006) argue that in order to understand competition in the market and develop a successful business strategy, companies have to integrate a social perspective into their existing core framework, hence their corporate strategy. The authors further claim that any sustainable approach that is fragmented or disconnected from corporate strategy and

business operations will prevent a company from making use of opportunities to benefit society.

According to Murthy (2012), integrating sustainability into corporate transformation not only creates value and a sustainable competitive advantage, but also responds to stakeholders' demands concerning environmental and social issues. Stakeholders can directly and indirectly influence the sustainability practices of a company to different extents (Sharma, 2005). For instance, consumer concerns about sustainable business practices have a significant impact on how businesses operate.

Nevertheless, a company that aims to create sustainable value by integrating sustainability into its corporate transformation has to consider a wider group of internal and external stakeholders, more than a company with a conventional business model would focus on. The conventional perspective of creating value for customers and shareholders must be expanded, for example, to nongovernmental organizations (NGOs), the environment, and local communities.

Moreover, companies have detected that protecting and enhancing one's corporate reputation and image is essential in today's global market. Behaving irresponsibly toward society and the environment could lead to a damaged reputation or even the collapse of a whole company.

The sole perception that a company's profit is gained at the expense of stakeholders can lead to a so-called bottom-line backlash, which can have a negative effect on the company's reputation (Renukappa, 2013). Therefore, companies are increasingly addressing environmental and social concerns, and particularly the ones that build their competitive

advantage on creativity, innovation, intellectual capital, and service consider integrating sustainability to be critical for their corporate reputation.

Factors that drive corporate transformation

Studies about factors affecting organizational changes to incorporate sustainability have gained increasing attention in the area of research in recent years. Schaltegger et al. (2012) stated that the core business drivers for sustainability are cost and cost reduction; risk and risk reduction; sales and profit margin; reputation and brand value; and innovative capabilities. Scarce resources and emerging social problems, as well as expectation of key stakeholders such as consumers, investors, and society in general have also forced companies to integrate sustainable issues into their businesses (Müller and Pfleger, 2014). Peters and Simaens (2020) have thoroughly compiled the drivers of integrating sustainability into three levels: 1. Institutional level, comprise of standards and regulation, consumer awareness, competitive advantage, and public pressure. 2. Organizational level, which are corporate reputation and sustainability as a business case. 3. Individual level, i.e., top management and originality.

In this study, based on the interview result, we found that the factors fueling sustainability incorporation in the pulp and paper industry is consistent with previous studies and literature. Risk and risk reduction, expectation of key stakeholders, i.e., market, consumers, investors, society; competitive advantage, and top management are the factors in particular mentioned by APRIL and APP. Each of these drivers is discussed in more detail in the following paragraph.

Risk and risk reduction: From the interview, we found that climate change is an immense risk as it could potentially cause fire and flood that will influence the operational production. Thus, best practices, which put sustainability as the core value, are necessary to preserve the long-

term viability of the business (interview, Head of Sustainability Compliance). This finding supports Kelman et al. (2015), who argue that climate change should become one of many processes within disaster risk reduction, in which disaster risk reduction drives sustainability development and positive policy outcome.

Expectation of key stakeholders: Stakeholders in the pulp and paper industry are consumers, market, investors / financial institutions, NGOs, and society in general that put interest in the pulp and paper company activities. As the deputy director of SSE (Sustainable and Stakeholder Engagement) stated:” It is inevitable, as a company that exports its product to over 50 countries, to comply with the market that demands product sources from only responsible businesses. On the other side, banks also have equatorial principles, in which they do not provide funding for companies that contribute to deforestation and exploit wildlife / endangered animals” (interview, Deputy Director of SSE). This statement acknowledges that stakeholders’ expectation plays a significant role for companies in the pulp and paper industry to practice sustainable operation within all its activities.

Competitive advantage: Our interview result shows that Integrating sustainability initiatives have enabled the company to gain competitive advantage in the market. As the head of SC highlighted:” Definitely, now recently as we know, the customers, or stakeholder in wider perspective, are increasing their awareness or their demand on the sustainability. We cannot avoid from that point of view right now. So, when we invest for the long term, that is benefitting us and give us more competitiveness and opportunity in market or in our relationship with our partners” (interview, Head of SC). The competitive advantage obtained from the sustainability movement stands in line with those of Cantele and Zardini (2018), who found that social,

economic, and formal practices dimensions of sustainability positively affect competitive advantage.

Top management: We found that top management leadership and commitment is essential for a company to successfully implement sustainability transformation. The Deputy Director of SSE mentioned:” The founder is very progressive; he wants to witness in 2030 a significant progress of APRIL vision 2030 that is truly committed toward sustainability, all of the programs.” This statement from the founder inspires all employees to act and shift toward sustainability and really put greater alignment for sustainability in all the corporate levels from top to bottom. Our finding is in agreement with those of Renukappa et al. (2017), who stated statements related to implementing sustainability initiatives from top management are seen as management commitments that eventually adhered to by members of the organization.

The challenges of corporate transformation

The transformation of any industry relating to a specific concept like sustainability is complex and challenging. Especially in the pulp and paper industry, it can be difficult, as paper and sustainability are still frequently considered as contradictory. This in turn presents certain challenges to integrating sustainability into corporate transformation.

Although more and more standards and regulations have been enacted globally, compliance is still perceived as difficult and considered a key barrier to the integration of sustainability. Companies are demotivated by the lack of government support and feel that regulations to achieve sustainability are not industry-friendly and do not give special benefits for implementing sustainability initiatives.

As value chains often cross the borders of continents and countries, standards and regulations might vary by country, state, or region. Due to globalization, working with suppliers from different countries in the value chain is common. These suppliers often depend on a multilevel supply chain themselves, which makes it difficult for companies to have an overview of the whole supplier network and presents huge purchasing complexity.

Cooperation with suppliers in other countries concerning sustainability standards and regulations can therefore be difficult, and not all of them will agree to a company's code of conduct, a formal document consisting of moral standards that explicitly specifies the company's commitment to sustainability.

According to Mathiyazhagan et al. (2013), consumer demands are critical for any kind of company. A common barrier to the integration of sustainability initiatives is therefore currently observed consumer behavior, which includes a lack of awareness of sustainable products and their benefits.

It is a common perception by companies that the process of becoming sustainable will deteriorate their competitiveness by creating high costs and no immediate financial advantages (Nidumolu, 2009). Companies confirm that integrating sustainability can be expensive and even cause negative competitiveness in the industry in the short term.

Initial investments that are required to, e.g., adopt the latest technology, train employees in sustainability, implement green design, develop an IT infrastructure, and recycle inside the company, as well as direct and transaction costs for managing and maintaining sustainability issues are the main financial pressures hindering a company from integrating sustainability. In

addition, sustainable materials are often more expensive than conventional ones and can increase the total cost of products (Koplin, 2007), which in turn can increase the buyers' and suppliers' costs as well.

Moreover, a key challenge to the integration of sustainability into corporate transformation is the lack of competence to manage the alleged paradox of improving environmental, social, and economic goals at the same time, which consequently blocks the translation of sustainability into corporate strategy and executive operations (Muthy, 2012). The lack of competence is often rooted in a lack of clarity regarding sustainability at the top management level of companies.

The benefits of corporate transformation on pulp and paper industry

Business impacts. To quantify how the effect of sustainability commitments and investments drive positive financial performance is a tough variable to measure. However, we manage to analyze Indonesia's pulp and paper industry export data linked with industrial forest with sustainable forest management (SFM) scheme. Prior to 2016, Indonesia's pulp and paper industry export recorded a downward trend and hit its lowest number at USD 4.98 billion in 2016. This is in part due to the global negative campaign and general misconception that Indonesia's pulp and paper products come from natural forest that leads to deforestation. During that period, Indonesia's industrial forest that has a sustainable forest management (SFM) scheme is only 0.7 million hectares. In 2016 and 2017, the number increased significantly to 2.4 million and 3.7 million hectares, respectively. Consequently, the pulp and paper industry's export value increased to USD 6.21 billion in 2017, USD 7.13 billion in 2018, USD 7.15 billion in 2019, and only dropped 4.4% in 2020 to USD 6.84 billion, due to the pandemic period.

The positive impact of increasing sustainable practice was also echoed by the Head of Sustainable Compliance of APP. She stated that initially many stakeholders, especially the customers, took the position of wait and see toward APP's sustainability commitment. However, after they saw how serious APP is pursuing sustainability, they started to open ways for dialog and also enhanced the relationship and built more trust. Likewise, APRIL also experienced a similar beneficial effect of pursuing sustainability. Apart from the market, financial institutions also have equatorial principles in which they only finance companies that apply responsible and sustainable operations. Thus, the pursuit of corporate transformation toward sustainability has a significant positive impact for the pulp and paper industry.

Social impacts. The impact of sustainability practice in the context of social is focused on the society and community engagement, which are both a crucial element in APRIL Vision 2030 and APP SRV 2030. To date, APRIL has continuously provided support for local communities, such as providing social infrastructure, including building of schools, mosques, village centers, sports arena, community halls, roads, and other related facilities to support social, cultural, and religious activities. In 2020, a total of ten social infrastructure projects were completed, down from 15 in 2019, mainly due to restrictions caused by the pandemic. Furthermore, APRIL Group also established an Integrated Farming System programme that helps equip local farmers with sustainable farming skills and agricultural assistance. In 2020, agriculture programs supported farming activities on approximately 620ha of land. The number of farmers trained by the company fell to 99 in 2020, from 236 in 2019, due to restrictions imposed by the pandemic, while 30 farmer groups were provided with agricultural materials. Apart from providing social infrastructure and establishing an integrated farming system programme, other worth highlighted social impact APRIL produced for the community are scholarship programs,

and partnership with local Micro, Small, and Medium Enterprises (MSMEs). Likewise, APP has also supported community economic activities, namely APP provides soft loans for MSME and agricultural businesses nearby so they are able to produce and be independent. To date, a total of 136 farmers and MSME players have taken advantage of the soft loans facility. In addition, APP also conducted a farmer empowerment programme, providing the community with training on agriculture and providing land on the Cisadane river banks as well as equipment for the farmers. 17 farmers who are members of 1 farmer group have joined this programme, where they plant various types of fruit trees, such as breadfruit, banana, and rambutan.

Environmental impacts. While sustainability has always been an important aspect for both APP and APRIL ever since its outset, the continuous and improving efforts from time to time have significant positive impact toward the environment. We classified those benefits into 4 categories: water management, air management, fire management and peatland management. Each of these categories are discussed in more detail in the following paragraph.

Water management: Water plays a crucial part in the pulp and paper production process, and it requires large quantities of water to produce tons of paper on a daily basis. The company sources water from nearby rivers which is also used by local communities for water supply, transportation, and fisheries. After production, the company returns the water back to the river. However, water after pulp and paper production contains several biological and chemical elements that must be treated carefully before it is discharged back to the river. The companies are very well aware of these hazards and operate an advanced wastewater treatment as so water returned back to the river is safe to use and is in accordance with the required environmental regulations.

Air management: Integrated pulp and paper mills have numerous associated air pollution, majority from its operational processes and to a lesser extent from vehicle transport. The shift toward achieving energy efficiency i.e., utilising by- products such as black liquor, bark, and other residues into energy sources to replace the use of fossil fuels, have contributed significantly to reduce carbon footprint. Further reduction of carbon footprint can also be achieved with the companies seeking to increase further use of renewable energy sources. However, more innovation in technologies is encouraged to ensure air emissions can be minimized as much as possible so it does not have a negative impact on the environment.

Fire management: Fire poses not only significant negative environmental impact, but also a major business risk as it damages plantations and reduces plants value and productivity. Over the past few years, fires have occurred yearly, especially during the dry season between March – September. Although the pulp and paper companies have adopted a “no burn” policy, there is always forest fire risk due to the climate pattern and also irresponsible human activities. Thus, pulp and paper companies currently developed more advanced and strategic programs to combat these issues, such as prevention actions, monitoring hotspots and fire risk areas, improving the number of firefighters and equipment for fire suppression, and also working closely with rural communities to promote sustainable agriculture practice and help detect fires. This integrated approach has delivered encouraging results, as stated in its 2020 Sustainability Report, APP, In 2020, managed to keep areas affected by fires at 0.01% of the total pulpwood suppliers’ concessions areas. less than its target of 2% from total concession areas and significantly lower than the 2019 figure of 1.69%.

Peatland management: Peatland preservation is crucial as peatland is an ecosystem that acts as a natural and major carbon sink. In 2015, the huge peatland fire in Indonesia – which caused enormous damage to the population and environment on a global level – has helped raise more awareness and call for action to protect this ecosystem. APP and APRIL, as a pulp and paper

company in which a significant number of its concession areas are peatland, have also raised its commitment to protect peatland. Both companies are committed to preserve peatland and manage peatland responsibly. Key activities in this context include mapping and analysis of peatland, improving water management, peatland rehabilitation, and continuing to advance tropical peatland science as a method to manage peatland effectively. However, even though peatland rehabilitation is a key activity, success stories of peat restoration, particularly on large areas, is still rare. This partly is due to the lack of knowledge on technicality on how to best support the restoration of peatland, thus, further science-based research is essential for a more effective and efficient peatland restoration system. That being said, one example of a successful restoration is the Restoration Ecosystem Riau (RER) program initiated by APRIL in 2013. It is a restoration program made up of 150.000 hectares of peat swamp forest on the Kampar Peninsula and Padang Island. Before RER was established, the area experienced decades of degradation through commercial and illegal logging by private businesses and local communities, who cleared and drained the forest. However, after the restoration program – which involves working closely with surrounding communities and several NGOs who provide special expertise - the area has been acknowledged as a highly significant area for biodiversity by several popular institutions, such as Worldwide Fund for Nature (WWF) and Wildlife Conservation Society (WCS).

Lessons learned from corporate transformation

The April case. APRIL (Asia Pacific Resources International Holdings Limited) is one of the largest producers of fiber, pulp, and paper in Indonesia and the world. The company is a business group under Singapore-based global resources company, Royal Golden Eagle (RGE). APRIL's main operation is located in Pangkalan Kerinci, Riau province, Sumatra. The integrated pulp and paper mill is capable of producing 2.8 million tons of kraft and dissolving

pulp and 1.15 tons of paper annually. Its plantation area is as large as 450.000 hectares, also, APRIL has a conservation area of 370.000 hectares.

In terms of sustainability, APRIL regards sustainability as a never-ending journey (interview, Deputy Director of SSE). The first milestone of its voyage was in 2002, in which APRIL pioneered the Wood Legality Chain of Custody (CoC) system. This system combats illegal logging which during that period was a very critical issue. Since 2003, APRIL voluntarily published its Sustainability Report, as an effort toward transparency to all stakeholders. In 2010, APRIL received its Programme for Endorsement of Forest Certification (PEFC) Chain-of-Custody (CoC) certification for forest products. This achievement meant that all wood sources entering APRIL's pulp and paper manufacturing facility are materials originating from plantation wood and not any controversial woods. Furthermore, in 2013, APRIL launched Riau Ecosystem Restoration (RER) program, with the main function being to restore degraded peat swamp forest in Kampar Peninsula. As of 2020, Over 150.000 hectares of peat swamp forest is protected within the program. This program inspired APRIL to pursue an ambitious sustainability target - production-protection approach – in which for every 1 hectares plantation area, APRIL will also conserve 1 hectare of land.

The vital quantum leap of APRIL's sustainability commitment occurred in 2014, which marked its first Sustainable Forest Management Policy (SFMP). We found this policy transformative as it applies a set of commitments and standards thoroughly across all the company's operation and long-term suppliers. Also, during this period, APRIL formed an independent Stakeholder Advisory Committee (SAC), who provides independent oversight of APRIL's SFM practice. Members of the SAC consist of forestry, environmental, business, and social experts. In

addition, the SAC appointed KPMG Performance Registrar Inc. to assess the SFMP's implementation. Such commitment shows order to achieve good sustainability governance.

In 2015, APRIL launched SFMP 2.0, the policy governs how APRIL manages its natural resources for optimal social, environmental, and economic outcomes and is an updated version of its SFMP 2014. In the updated Policy, APRIL added a commitment to eliminate deforestation from its supply chain, only develop areas that are environmentally-acceptable, as identified through independent peer-reviewed High Conservation Value (HCV) and High Carbon Stock (HCS) assessments, and to halt all harvesting of mixed hardwood (MHW), among other commitments. Finally, in 2020, APRIL launched its APRIL2030 strategy and commitments, which builds on the company SFMP 2.0 and incorporates the UN SDGs framework to align its sustainability dedication and master plan with the global agenda.

Throughout APRIL's journey and dedication toward sustainability, APRIL sustainability goals also derive from the requirements of external standards and certifications. As of 2021, APRIL have numerous national and international certification, such as ISO 45001 (Safety Management System), ISO 9001 (Quality Management System), ISO 14001 (Environment Management System), PEFC-CoC and PEFC-SFM (sustainable forest management) certification, Singapore Green Label, Timber Legality Verification (SVLK), and SMETA. The various certifications above have shown how several independent organizations acknowledged APRIL as a company whose operations are managed sustainably and responsible.

The APP case. Asia Pulp & Paper (APP) is an Indonesian pulp and paper company which is the biggest pulp and paper production in Indonesia and one of the largest pulp and paper companies in the world. APP has a current annual combined pulp, paper, and packaging-grade

capacity of more than 20 million tons per year, and markets its products to more than 150 countries across six continents.

As a leading global pulp-and-paper company, sustainability has always been part of APP business strategy. The major transformation comes with the Sustainability Roadmap Vision (SRV) 2020, launched in 2012 which became APP comprehensive strategy for sustainability. SRV 2020 sets out the APP approach to supporting the *Sustainable Development Goals* (SDGs). Moreover, commitment of APP was also followed by the forest conservation policy (FCP) in 2013.

While the vast majority of APP targets in SRV 2020 have been achieved, sustainability strategy has transitioned from Vision 2020, which has ten pillars—Fibre Sourcing, Reforestation, Conservation & Biodiversity, Human Rights & Indigenous People, Community Empowerment, Climate Change, Emissions, Water Management, Solid Waste, and Employee Welfare—to Sustainability Roadmap Vision (SRV) 2030, with its three pillars—Production, Forest, and People.

All of these instruments aim to manage sustainability and climate risk which are inevitable for any responsible business. Moreover, APP recognizes that ending poverty and other deprivations must go hand-in-hand with a few strategies that can improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve oceans and forests.

APP policies that were improved by Vision 2020 include:

- Corporate Social Responsibility Policy

- Environmental Stewardship Policy
- Forest Conservation Policy (FCP)
- Responsible Fibre Procurement & Processing Policy (RFPPP)
- Procurement Policy on Chemical Substances
- Employee Welfare Policy

Conclusion

Our research studied the leading pulp and paper companies in Indonesia, APP and APRIL, two entities that have both put sustainability as the heart of all their operational practices. Our analysis, based on interview with key people in the company and also examination of the sustainability report, have found that both APP and APRIL transformation towards sustainability is more of a journey and progressive action than of a sudden overnight shift. Both companies are deeply committed to align itself with the global call of the sustainable development goals as proven by their 2030 roadmap and vision.

Our research has also contributed to put light onto factors that drives sustainability transformation and also to understand challenges of the integration in the pulp and paper industry. We identified a total of 4 drivers and 2 main challenges. The four drivers are: risk and risk reduction, expectation of key stakeholders, i.e., market, consumers, investors, society; competitive advantage, and top management. While two main challenges are the initial investment required and the lack of competence to manage the alleged paradox of improving environmental, social, and economic goals at the same time.

We further explained in more detail on the lesson learned from both APP and APRIL cases. The current best practice of both companies can set a good example for other pulp and paper companies in Indonesia. Therefore, our results also provide a better understanding of how the pulp and paper industry transformation toward sustainability is integrated into its corporate strategy.

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