## Green innovation. nokia case

Business, Company



High-Tech marketing. Sustainable innovation- Nokiacase studyIntroduction: Thetechnologyoffers a promise of a better world through the improvements in standards of living. On the other hand, resource extraction, emissions of dangerous materials, and pollution of air, water, and soil have created conditions for environmental catastrophe and have already caused irreversible damage to the Earth.

That is why in last few years, companies started focusing on an ecoinnovation. Eco-innovation is the development of products and processes that contribute to sustainable development, applying the commercial application of knowledge to elicit direct or indirect ecological improvements. This includes related ideas. а range of from environmentally friendly technological advances to socially acceptable innovative paths towards sustainability (http://en. ikipedia. org/wiki/Eco-innovation). Sustainability can be defined in a variety of ways. The short definition created in 1983 by a UN commission is: "Meeting the needs of the present without compromising the ability of future generations to meet their own needs" (http://www. un. org/en/sustainability/index. shtml). The European Union adopted action plans to promote technologies that use less environmentally harmful alternatives.

For example, the EU has passed laws requiring energy-using products, such as electrical and electronic devices and heating equipment, to be designed to be more energy-efficient (EPEAT). The Waste Electrical and Electronic Equipment Directive (WEEE) imposes theresponsibility for the disposal of waste electrical and electronic equipment on the manufacturers. The Energy using Products (EuP) Directive, sets requirements to reduce the

environmental impact of products that use electricity across their entire lifecycle.

REACH is a recent European Community Regulation on chemicals and their safe use through better and earlier identification of the intrinsic properties of chemical substances, especially those containing more than agreed-upon levels of lead, cadmium, mercury, chromium (VI), polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants. Nokia Corporation is a Finnish multinational communications and information technology corporation. Its principal products are mobile telephones and portable IT devices.

It also offers Internet services including applications, games, music, media and messaging, and free-of-charge digital map information and navigation services through its wholly owned subsidiary Navteq. Nokia has around 101, 982 employees across 120 countries, sales in more than 150 countries and annual revenues of around €30 billion. It is the world's second-largest mobile phone maker by 2012 unit sales with a global market share of 22. 5% in the first quarter of that year. Nokia was the world's largest vendor of mobile phones from 1998 to 2012.

However, over the past five years it has suffered a declining market share as a result of the growing use of smartphones from other vendors, and devices running on Android operating system. As a result, its share price has fallen from a high of US\$40 in late 2007 to under US\$2 in mid-2012. Since February 2011, Nokia has had a strategic partnership with Microsoft, as part of which all Nokia smartphones will incorporate Microsoft's Windows Phone operating system. Its first handsets were released in October that

year (http://en. ikipedia. org/wiki/Nokia). Purpose and Mission Nokia's mission is simple: Connecting People. The goal of Nokia company is to create mobile products that allow people worldwide to enjoy the technology. The key elements of Nokia strategy are: \* building a new winning mobile ecosystem in partnership with Microsoft \* bringing the next billion online in developing growth markets \* investing in next-generation disruptive technologies \* increasing our focus on speed, results and accountability (http://www. okia. com/global/about-nokia/about-us/about-us/) Nokia follows the concept of the open innovation which lead to forming a strategic partnership with Microsoft that will regain lost place in a smartphone market. Open innovation encourages Nokia-Microsoft cooperation to search and exchange new knowledge, develop products and services to become competitive in the market. I believeopen innovation will benefit Nokia and its consumers as it will enhance relationship between producer and users.

Although, Nokia is not an energy intensive company because most of the greenhouse gas emissions occur only during manufacturing by suppliers or usage of products, Nokia pays attention to the energy consumption and greenhouse gas emissions of its products and operations. The main of Nokia should focus on reducing energy consumption and greenhouse gas emissions as well as raising awareness and promoting best sustainable practices in mobile phone industry. In accordance to the terms of REACH, Nokia has pledged that the use of chemicals in Nokia products and processes shall be safe to humans and theenvironment.

Furthermore, Nokia is the first company that created climate strategy that concentrates on products, manufacturing, facilities, logistics, suppliers and

customers. So far, the greenhouse gas footprint of Nokia phones has been reduced by up to 50% between 2000 and 2010, while introducing new features and capabilities. In my opinion, Nokia should focus more attention on its customers in encouraging and educating them through use of the products to be more eco-friendly. For example, develop travel applications that help people in reaching destinations quicker and application that encourage people to choose public transport instead of cars.

The most useful application would be one that shows the nearest bus stops, train or metro stations, the routs, destinations and the time of arrival/departure. Furthermore, Nokia products should have energy saving options available in every smartphone model, like switching off online functions (WIFI, internet, GPS etc) when they are not in use for some period of time. Sustainable mobile products Nokia products are eco-friendly as the company uses sustainable materials, develops smaller, recyclable packaging and improves energy efficiency for products.

Every Nokia product comes with an eco profile, which explains its materials, energy efficiency, packaging, environmental impact and recycling. Picture 1. **Ingredients** Nokia smartphones nokia. of Adopted from: www. com/global/about-nokia/people-and-planet/sustainable-devices/materials/ materials/ New Nokia products are eco-innovations and have environmental features. For example: Nokia Lumia 820 -automatic screen brightness adjustment, -battery saver feature, -energy efficient charger -contains bio plastics; recycled metals 100% recoverable as materials and energy -100 % recyclable, minimized package made of -renewable -materials containing up to 60% recycled materials. Nokia 700 -Power Save mode, -ambient light sensor, -unplug charger reminder, -OLED display, -contains recycled metals, bioplastics, bio paints and recycled plastics -100% recyclable packaging (http://www. nokia. com/global/about-nokia/people-and-planet/sustainable-devices/sustainable-devices/) In my opinion, Nokia should also focus on process of recycling the old phones.

For example, when customers want to buy a new Nokia phone, the company should proceed according to The Waste Electrical and Electronic Equipment Directive (WEEE) that imposes the responsibility for the disposal of electrical equipment on the manufacturers. The best solution would be buying an old phone off customers for a small price and recycle some parts of the phone to recover the materials which can be used for producing new models. The Research; Development department should also focus on innovation regarding the new energy sources, for example, solar power.

To my surprise I learnt that Nokia already has been testing the Portable Solar Charger as a charging opportunities for people that want to use Nokia smartphones but do not have access to the electricity. Furthermore, in 2006 Nokia introduced small packaging which is easier to recycle. Lighter packaging also reduced transportation costs. In my opinion, Nokia should still work on reducing the use of paper and plastic in the packaging. Some of the packages still have paper information, certificates and instructions which are unnecessary. In my opinion, these ocuments together with the user's guide should not be included in a package, but available online for all customers. Promotion Nokia promotes its products as eco-friendly in the mobile phone market. The company also raises awareness about environmental issues, education. The perfect way of promoting the company with sustainable

values in the world is to improve access to information and communication technologies (ICT) in developing countries. This would bring benefits to people who are unable to access these technologies for financial or geographical reasons.

The company should offer affordable mobile products and services to help people develop business and employment opportunities all over the world. Nokia has already done it, as it collaborates with UNESCO's Education for All and uses the mobile technology to develop mobile educational products such as Nokia Education Delivery, Nokia Life and Nokia mobilemathematics. Nokia Education Delivery uses mobile technology to deliver quality education materials to remote, hard-to-reach areas so teachers and trainers can access and download videos and other educational resources.

Furthermore, in 2008, Nokia launched a pilot scheme for mobile mathematics in South Africa. Nokia Life education services providehealthinformation and advice on pregnancy, parenting, diseases, fertilizers and pesticides, yield enhancement techniques, market prices, and weather (temperature, rainfall, wind conditions). In my opinion, Nokia company should also promote its sustainable values by taking part in worldwide voluntary actions that promotehuman rightsby ethical labour, high quality of work environment, health and safety and equality. Distribution

Nokia provides guidance on what expect from suppliers. These requirements include environmental and social expectations, which are based on international standards such as ISO 14001, SA 8000, OHSAS18001, PCMM and ILO, and UN conventions. Thus, Nokia suppliers undergo a number of assessments designed to measure their environmental and social

performance. In my opinion, Nokia should also ensure that company suppliers provide safe working conditions, use environmentally friendly manufacturing processes and contribute to reducing the environmental impact of our own operations.

Nokia should pay attention to the energy and water consumption, waste generation and greenhouse gas emissions during manufacturing products as well as distributing the products to the consumers. If the suppliers do not follow sustainable guidance for companies, Nokia should help them achieve thosegoalsby sharing knowledge and experiences with others. Nokia should also have an open communication system with suppliers, customers, and non-governmental organisations that promote sustainability. Development of the company:

Reading the documentation of Nokia company it seems that it is a leader in green- innovation in the market of mobile phones. The company is aware of the impact on the environment and tries to minimize by following governmental laws and introducing own sustainable regulations. However, in my opinion Nokia has neglect the importance of promotion and communication with customers its environmental values. Therefore, I would like to propose my ideas for improving few sectors of the company which can make Nokia more competitive in the market and be recognised as eco-friendly among its customers. 1. Communication and promotion:

Nokia should focus its communication messages on showing that the whole company and its products are sustainable and have well-recognised ecofriendly approach among its customers by presenting posters in the Nokia shops or actively and publically supporting environmental organisations. The

company should also encourage customers to become more eco-friendly in their everyday life through encouraging them to participate in happenings and day events. Nokia should communicate its green innovation messages more to the general public and potential customers using media like TV adverts and radio messages or internet actions.

It would be good if the company took part or initiate some events and happenings which aim at environmental awareness. I also like the idea of Nokia's mathematics in schools. This action should be continued and also should be better communicated to schools and parents. It would be a good idea if Nokia would open a charity which helps children from developing countries in schools or establishacademicgrants for children from underprivileged families who have mathematical skills. Furthermore, Nokia should also create a school program for ecology and sustainability inprimary and secondaryschools.

In my opinion, it would be a good idea if Nokia would provide bins in schools for recycling batteries or other small electronic appliances. 2. Pricing: To be more competitive in the fast growing market of smartphones Nokia should keep their prices low and affordable for everyone with keeping the high quality standard of the products. Nokia already has lowered the cost of packaging and transport of products by reducing size and use of paper, this should have a reflection in the phone prices as well. In my opinion, Nokia should make a packages even smaller without unnecessary use of plastic covers and paper in them.

All the information about the phone should be available on a website after registering or entering the serial codes together with users' guide.

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Furthermore, to appear more ecological friendly Nokia should buy off the customers the old phones which can be recycled by the company again. This way customers feel like being a Nokia's customer is profitable, taking care of environment as well. Customers receive a high standard product for a good price and in addition they are also paid for returning the old phone. 3. Research and Development:

Nokia research and develop team focus on solutions that enhance the energy efficiency in the products. To more competitive in the market Nokia should invest moremoneyin the R; D department and work on new technologies which will use renewable energy. Research and Development is a vital part of every high-tech company and to be successful in innovations Nokia has to recruits the employers through different channels. In my opinion Nokia should offer studentships and grants for postgraduate IT, engineering students who will work on Nokia products and develop them.

Nokia also should offer many apprenticeships for students and graduates who will bring different approach to innovations and help develop products. This will help the company to improve or create new products as well as encourage creativity of employers. Furthermore, Nokia should be more open to communication with its customers and employ them in the open innovation process as well. For example, Nokia should organise contests for its users which encourages creativity: design a smartphone of the future. People could design their own phones using online Nokia application and for the best