

PGDM-IB, Batch 2021-23
International Supply Chain and Logistics Management
IB-405
Trimester – IV, End-Term Examination: September 2022

Roll No: _____

Time allowed: 2 Hrs
Max Marks: 40

Instruction: Students are required to write Roll No on the cover page of the Answer Sheet. All other instructions on the question paper / Admit card should be followed meticulously.

Sections	No. of Questions to attempt	Marks	Total Marks
A	Minimum 4 questions with internal choices and all COs (Course Outcomes) covered in the Question Paper	4* 5	20
B	Compulsory Case Study	2*10	20
			40

SECTION A – (5 marks * 4 questions) = 20 Marks

Q1. CO-01

A. What do you understand by global logistics? How do 3 PL and 4 PL operators fit into this picture?

Or

B. "A full container load is one that has reached the maximum allowed weight of product inside the container. In practice, FCL loads may not always mean a full container. An FCL always describes a load expressly for one shipper; the shipper may reserve one FCL but not completely fill the container". Differentiate between FCL and LCL?

Q2. CO-02

A. Why is quantification of SCM performance results required? Are there same areas/sub areas where quantification is not possible? If yes, identify such areas?

Or

B. What modes of transportation are best suited for large, low value shipments in retail industry? Why? Discuss key drivers that may be used to identify 3rd party logistics service providers?

Q3. CO-03

A. Why should it be preferred for a vendor to manage his own inventory at the buyer's plant? How can it be ensured?

Or

B. The XOXO Bunny is a hot toy this Christmas, and the manufacturer has decided to ration supply to all retailers. A large retail chain owns two channels- a discount channel and high service channel. The retailers plan to sell the toy at a margin of Rs.4 in the discount channel and a margin of Rs 8 in the high service channel. The manufacturer sends 100,000 XOXO Bunnies to the retailer. The retailer has forecast that the demand for the toy at the high service channel is normally distributed with a mean of 400,000 and a standard deviation of 150,000. How many toys should the retailer send to the high service channel?

Q4. CO-04

A. What are the advantages of moving from an MTS model to ATO model and CTO Model?

Or

B. The sales of More Retail in Delhi has doubled in last two years. What is the impact of this on the inventory turn for the firm?

SECTION B – CASE STUDY (20 Marks)

The company considers sound environmental and social principles as an important part of sustaining a successful and responsible business. They claim to work hard to anticipate risk, demonstrate company values, enhance their governance practices, increase employee satisfaction, and look after the communities where they do business.

Nokia expects the companies in their supplier network to take a similar ethical business approach, therefore takes this into account when selecting suppliers and developing long-term relationships with them.

Global Sources-Closer Ties

Nokia sources products and services, including components, software, packaging, manufacturing and office equipment, from thousands of suppliers all around the world. In their mobile phone business, for example, an average of 350 components are needed to make one device. Last year, Nokia purchased approximately 100 billion components. That means, if one were to stack each of these components on top of the other, one may eventually reach the moon.

Despite these high volumes and the ever- changing sourcing needs of this dynamic industry, Nokia has far fewer component suppliers for their mobile phone manufacturing than their competitors. For example, Nokia's top ten suppliers account for around 60 per cent of their total purchases, while their 100 larger suppliers account for 95 per cent. The longevity and high monetary value of these key relationships help Nokia to form deeper strategic partnerships, allowing them to develop and strengthen ethical and environmental.

Supplier Diversity Initiative

In the US, Nokia is actively seeking to increase the ratio of minority and women-owned suppliers in sourcing projects. Nokia's supplier diversity initiative is an economic development program set up to encourage the creation, growth, and expansion of small, minority, and women-owned businesses within the supplier network. Under the initiative, Nokia tracks the expenditures to minority groups and benchmarks progress over time. In 2005, the company spent over USD 20 million with diversity suppliers.

Supplier Requirements

The company aims to ensure that environmental, ethics, labour practices, and health and safety issues are not separate add-on features, but are- embedded into all sourcing processes, including supplier selection, and supplier relationship development.

Nokia has a clear and comprehensive set of global Nokia supplier requirements, including ethical and environmental considerations that they expect all their suppliers to meet. There are two types of requirements.

1. Expectations for supplier performance
2. Specifications for the components, parts, or products being delivered

The experience gained through on-site supplier assessments provided invaluable input for the development of their new Nokia supplier requirements.

Proactive Approach to Sustainability

In many sourcing areas, the company has complex and deep-rooted supply chains. The challenge for Nokia is to find the most effective way, using the resources and time that they have, to reach not only their direct suppliers, but their suppliers and their suppliers' suppliers. Nokia has focused predominantly on their tier 1 suppliers, educating them to take a similarly active and stringent approach to ethical and environmental considerations with their respective suppliers. This approach is based on the understanding that the company will achieve positive, sustainable results only when each tier of a supply network takes responsibility for conducting its own business, and managing its own suppliers.

Competence Development

During 2005, Nokia continued regular competence development activities on ethical and environmental issues with their sourcing and operations personnel. The company's basic supply chain ethics training covers the following issues.

- Concept of corporate social responsibility
- Nokia Code of Conduct
- Social requirements for suppliers
- SA 8000 content
- Practical information on auditing social aspects in regular supplier assessments

In environmental training the company concentrates on the basis of

- environmental management
- environmental legislation
- material restrictions
- implications for sourcing practices
- supplier requirements

Training Figures

Figures 1 and 2 display the training figures at Nokia for supplier interface personnel in different years.

Supply chain ethics training

Year	Cumulative amount of people trained
2003	522
2004	721
2005	768

Cumulative percentage of personnel trained in supply chain ethics: 66% Environmental training for supplier interface

Year	Cumulative amount of people trained
2003	507
2004	750
2005	803

Cumulative percentage of personnel trained in environment: 70%

New Supplier Requirements

In 2005, in response to a changing legislative environment and broader stakeholder expectations particularly the feedback from the company's suppliers, Nokia made the decision to revise and update its Nokia supplier requirements (NSR).

Fig. 1 Cumulative percentage of supplier interface personnel trained as In 2004 and 2005

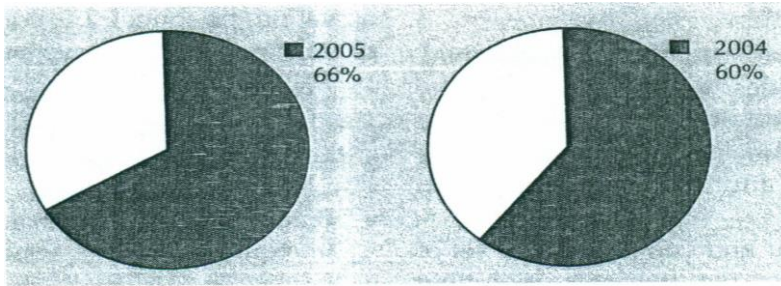
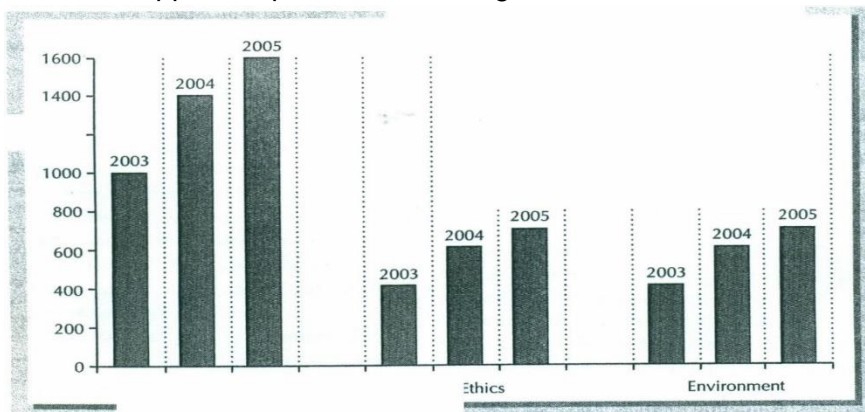


Fig. 2.0 Participants in supply chain and ethics and supply chain and environmental training at Nokia (2003-05)

In particular, the new guidelines that were implemented in late 2006, reflected the increasing importance of substance and waste management. Their requirements related to ethics, labour practices, and health and safety, have also been fully reviewed, and made more explicit to better reflect both their own internal policies and practices, as well as external guidelines such as the ILO core conventions, the UN Declaration for Human Rights, and industry standards such as SA 8000 ISO 14001 and OHSAS 18001. Nokia notified a Nokia Substances (dangerous) List as a part of its obligation under the adoption of environmental management system (EMS)

The new supplier requirements relating to environmental ethics and labour conditions include



expectations for the following:

- Company values and business conduct policy
- Human resource policies
 - Environment policy
 - Workforce planning and recruiting
 - Occupational

- health and safety
- Competence and development
- People management

- Communication and coordination
- Environmental management system
- Raw material content data management
- Waste management

- Programs for improving environmental performance
- Design for environment
- Supplier's environmental and ethical performance

These new requirements differ from the previous set in reflecting Nokia's ambition to better highlight the business benefits that sound ethical practices can bring. In developing the requirements, the company also sought to illustrate for company's suppliers, as to how issues such as the prevention of child labour and discrimination can be built into people management practices.

In an effort to carry greater influence deeper in their supply chain, Nokia now strongly advises their suppliers to apply the same standards to their own suppliers, as well as to support them through regular education and monitoring practices.

Supplier Assessments at Nokia

The Finnish giant carries out regular supplier assessments as a tool to promote good performance, as well as to monitor compliance with the NRS. This is not a policing activity. Nokia sees on-site assessments as providing an opportunity to raise awareness, identify potential risks, and share best practices. Using this approach, each supplier is required to define a corrective action plan for any areas of non-conformance found. Nokia auditors then follow-up on progress, with guidance and management support also provided when needed

Focus on Environmental and Ethical Performance

In 2005, Nokia continued regular scheduled on site system assessments, while also conducting several more in-depth on-site assessments. Whereas, traditionally the in-depth assessments have focused on direct sourcing, i.e., the component suppliers and contract manufacturers, as also the suppliers of materials for packaging, software development, and research and development at Nokia, in 2005, special focus was given to assessing the ethical and environmental performance of suppliers in the external, temporary labour category

Indirect Sourcing Integration

As part of Nokia's commitment to continuous improvement, corporate responsibility practices were also revised and integrated into the company's indirect sourcing process (Fig. 3.0). Nokia's indirect sourcing is responsible for purchasing the non-production resources needed to run the day-to-day operations. Products and services include, for e.g., office supplies, personal computers, manufacturing equipment, engineering software tools. external resources, marketing material, catering, and travel. The experience gained through these on-site supplier assessments provided invaluable input for the development of the new Nokia supplier requirements.

In 2006, the company planned to continue supplier assessments with selected suppliers. However, good environmental and ethical performance in the supply chain cannot be achieved through supplier assessments alone. Management commitment, effective supplier qualification techniques, dialogue, and continuous development are all fundamental aspects, and the company is constantly looking to build on and improve the toolbox.

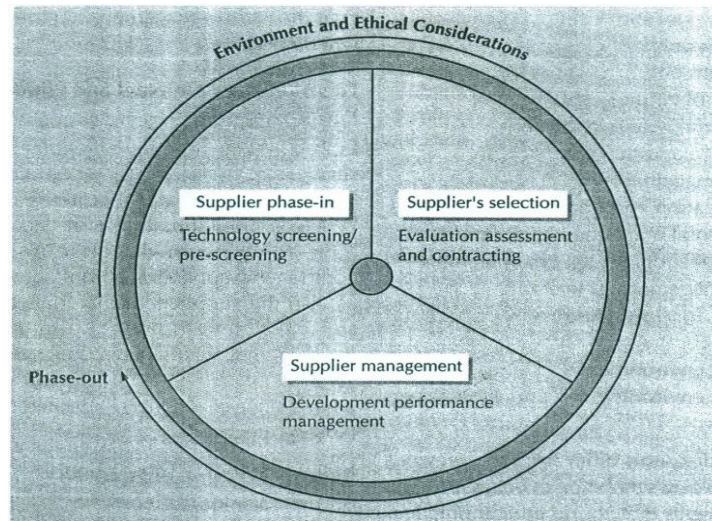
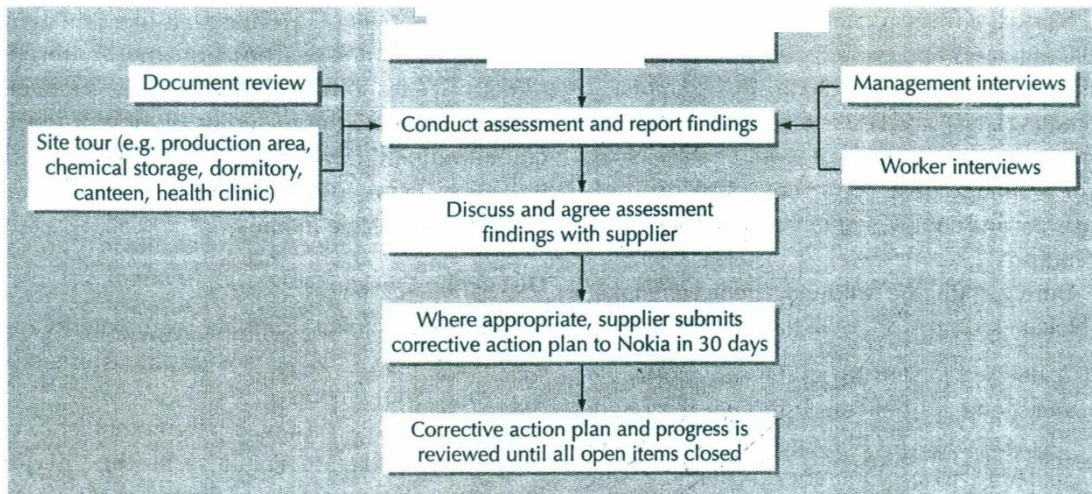


Fig. 3.0 Sourcing actions at Nokia [Source: www.nokia.com as accessed November 19, 2008]

At the industry level, Nokia joined the global e-sustainability initiative supply chain working group, together with ICT service providers and manufacturers. The aim of this group is to promote good conduct and develop tools, management practices, processes, and systems to assist members in dealing with CSR supply chain issues. For example, one of the key outputs for 2005 has been a self-assessment questionnaire for suppliers. The Global e-sustainability Initiative (GeSI) supply chain working group is also working with the electronics industry code of conduct implementation group of companies.

At the end of 2007, Nokia started to work with its direct sources to increase the visibility of environment performance and target setting. The focus was on the following four key environmental areas

- Energy consumption at supplier sites and improvement targets
- CO₂ (carbon dioxide) emissions from supplier sites and improvement targets
- Water consumption at supplier sites and improvement targets
- Waste generation at supplier sites and improvement targets

In 2008, out of all the suppliers of Nokia that accounted for 69% of its overall hardware spend, 82% had set reduction targets for energy, CO₂, water, and waste, and were getting these monitored at their sites

Indirect Nokia Sourcing

As part of the commitment to continuous improvement, corporate responsibility practices were also revised and integrated into Nokia's indirect sourcing process.

Nokia began by dividing its suppliers into 10 broad sub-categories, such as IT, travel, marketing process materials, etc., and allocating an assessment manager to each

The main objectives of the project were two-fold

1. Identify critical sub-categories

Criteria included multiple considerations, such as whether the product provided, by the category relied on high levels of toxic material or material potentially obtainable from environmentally sensitive sources, or whether the product or service supplied was for use in a Nokia end product, or for the operation of a Nokia manufacturing facility. Category assessments also took into account, issues, amongst many others, such as the global availability of the material or product they supply, the degree of complexity in the supply chain, and whether there was a history in the industry of informal contractual arrangements.

2. Identify high-risk vendors

Once, critical sub-categories of materials were identified, the second objective was to identify specific high-risk vendors in specific countries, involving an assessment of suppliers' ability, and willingness to comply with Nokia's ethical and environmental guidelines.

By the end of the audit, the company had identified approximately 50 companies that the company felt might require, or benefit from further scrutiny. Nokia now plans the company to stage assessment programs for each of these during 2006

Communication

Open dialogue is essential to share Nokia's experience and also to gain feedback from those who can affect, or could be affected by its activities.

Through regular internal trainings, Nokia is in an ongoing dialogue with their sourcing and operations personnel on supply chain ethics and environmental issues.

Nokia Annual Supplier Days

The Nokia annual supplier days provide a forum for industry discussion. These events bring top management from Nokia and their suppliers together to review upcoming strategies, and discuss environmental and ethical issues.

Nokia is always in continuous discussion with their customers and participating with other ICT companies in the value chain, for example, in supporting UNEP and ITU in the GeSI supply chain working group. This kind of work enables Nokia to benchmark best practices, and promote consistent and complementary approaches within the industry.

During 2008, the following steps were taken by Nokia

- (i) It decided to start using the self-assessment questionnaire delivered through the online Electronic Tool for Accountable Supply Chain (E-TASC) to replace the earlier SER self-assessment
- (ii) It concluded 62 Nokia Supplier Requirements (NSR) assessments and eight in-depth labour health, safety, and environmental assessments.

By the end of 2008, 91 % of Nokia's direct suppliers' sites were ISO 14001 certified, which accounted for at least 98% of Nokia's hardware purchasing expenditure.

In 2008, Nokia continued to work with the suppliers to raise awareness and ensure actions for compliance to EU regulations on the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH). According to EU-REACH, companies are obliged to ensure that the chemical substances, which they manufacture, import, or are found in articles considered as 'substances of very high concern', are registered, authorized, or notified on the basis of legal requirements. In this regard, Nokia came out with the Nokia Substance List (NSL), which required suppliers to have a record of the raw material component of products shipped to Nokia and also to provide end-of-life treatment recommendation, if any. It also tries to find out the origin of raw materials like Tantalum. Although Nokia does not buy raw materials directly, it tries to establish through its suppliers as to from where the materials of their products come from and how these have been extracted, processed, or produced in an environmentally and socially responsible manner.

1. What are Nokia's supplier requirements and expectations? What are the focus areas of such requirements? (7 marks)
2. How does Nokia develop the competence of its suppliers? What are the major concentration areas and the extent of training provided? (7 marks)
3. What do you think are the reasons that prompted Nokia to adopt the new supplier requirements? Would you like to add to the list of new supplier requirements? If yes, name and discuss these requirements (6 marks)