

Global value chain analysis on samsung electronics essay sample

[Business](#), [Company](#)



Global Value Chain Analysis on Samsung Electronics

February 2012

The Commercial Section of the Canadian Embassy in the Republic of Korea commissioned this report to the Korea Associates Business Consultancy Ltd. (www.kabcltd.com)

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1. Executive Summary

1. 1.

Purpose of the report

The objective of this work is to produce a global value chain report on Samsung Electronics Corporation (SEC) which has two divisions in the information and communication technologies section, mobile media and connected vehicle development, with the aim of outlining innovation entry points for Canadian companies by identifying Samsung's organizational structure, and how Canadians, especially SMEs, can engage in the various stages of Samsung Electronics' value chain.

1. 2.

Samsung Group and Samsung Electronics

Samsung Group is the largest group or Chaebol in Korea. Samsung Electronics is the largest subsidiary with a 2011 Korean consolidated income of C\$150 billion. Samsung Electronics has 144 consolidated subsidiaries of

which 18 were newly consolidated at the end of 2011. Samsung Electronics consists of three core divisions: •

-
-
-

1. 3.

Device Solutions, a Business to Business (B2B) division handling semiconductors, other chips and Liquid Crystal Display (LCD) and other components. Digital Media & Communications (DM&C) is basically a Business to Consumer (B2C) Company producing phones, computers and televisions and everything in between.

Samsung Advanced Institute of Technology (SAIT) is the research power of Samsung that also handles (at the moment) new business.

The two business divisions handle nine product divisions.

The Samsung Value Chain

As a hi-tech company, Samsung Electronics and affiliates are determined to maintain leadership in all areas related to mobile and media technologies.

The intellectual spearhead of this is Samsung Advanced Institute of Technology (SAIT). The way in which this institute and its related organs around the world begin the preparation for the development of new products is the first of the three layers of product development. The next two are at

the centre of the Digital Media and Communications division and at each product division.

Procurement of components is in principle based around Samsung Electronics Device Solution division and affiliates. Products not made by this division are procured through a transparent process. These are then assembled in the appropriate factories of the division around the world.

Device Solutions and Digital Media divisions divide into two, one as a B2B operation with marketing and logistics focused on Korean and Incheon airport, and the other as a B2C company with a sophisticated logistics and global Enterprise Resource Planning (ERP) system managed by Samsung Electronics Logitech and Samsung Digital System (SDS). Sales and Marketing come under a different management structure, which is based on geographic area, rather than product, working with outsourced logistics and

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vendors in each market. In 2007, Samsung was ranked 7th out of the 25 leading companies for its integration in this field.

1. 4.

Mobile media and connected vehicles value chain

1. 4. 1 Mobile media

A further section in this report looks at the value chain from the point of view of the mobile product division, tracing each step for the basic vision, and

analysing the R&D system in depth and noting that production is heavily concentrated in Korea, China, and Vietnam triangle. Sourcing decision trees for research and products includes mobile products, most especially the smart pad form building blocks for connected vehicles.

1. 4. 2 Connected vehicles

The value chain of connected vehicles is a forward looking construction that highlights the fact that product development is the key and the evolving ecosystem has a much higher degree of outsourcing at this stage. Likewise the final product will be shared among B2B relations with Original Equipment Manufacturers (OEMs), consumers and system integrators like SDS. The role of Seoul Commtech, Samsung's navigation company is emphasised.

1. 5.

Affiliated companies to contact

The section lists the product development organizations and the producing companies that are a potential list of companies around the world to note, which produce or assemble mobile devices or components.

1. 6.

Contacting Samsung

Since product development is so important to the product areas researched for this report further attention is given to the ways to approach Samsung

and especially its product research and development sections. General advice on how to become a supplier is also given.

1. 7.

Tips for Canadian companies

Further advice to Canadian companies is given in this section including consideration on pros and cons of hiring ex-Samsung executives to assist in the process as well as ten tips on how to get the attention of Samsung.

1. 8.

List of contacts

An appendix lists selected contact names and addresses of potential partners.

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2. Introduction

2. 1. Objective of study

The objective of this work is to produce a global value chain report on Samsung Electronics' two divisions in the information and communication technologies section, focusing on mobile media and connected vehicle development, with the aim of outlining innovation opportunities for Canadian companies by identifying entry points in Samsung's organizational structure, and how Canadians can engage in the various stages of Samsung Electronics' value chain.

2. 2.

How to approach Samsung

Samsung has been difficult to crack for Canadian small and medium enterprises (SMEs) and innovators. A Global Value Chain (GVC) analysis of the company is intended to increase the potential for Canadian companies to be introduced into Samsung's product and solutions ecosystem.

There are 83 Samsung companies in Korea, which have a complex interrelationship within the Samsung Empire, plus hundreds of overseas subsidiaries. This report concentrates on Samsung Electronics, but refers to three other members of the group, which are relevant to the sectors studied: Samsung Advanced Institute of Science (SAIT), Seoul Commtech Co., Ltd. and Samsung SDS.

SEC is the major centre of most activity, but it may not always be the easiest company to interface with. Canadian companies may find other routes through the Samsung ecosystem to success.

2. 3.

Future Technology - Mobile Media and Connected Vehicles

The technology used (and future technologies which will be used) in both areas of interest is similar and relies on some of the same " smart" concepts. Thus, advances in mobile media will also leverage into advances in connected vehicles. Mobile media (embracing phones, tablets and other

devices) is currently much more advanced in terms of consumer usage and rapid technological development than connected vehicles, where only certain aspects have been developed in common usage such as navigation using Global Positioning System (GPS) and certain telecommunication functions. But on board computers are current in many new vehicles, and implicit in all future auto designs. One of the issues is to see how far these two dimensions, using the same technology, are working together or separately in Samsung and in subsidiaries both in Korea and globally. The aim of this report consists of three purposes;

1. To follow these two product areas through the eyes of one of the largest companies in the world, Samsung Electronics and its subsidiaries.
2. To map as best as can the value chain from basic research to the delivery of the product to the customer.
3. To identify those stages where Canadian companies might benefit in finding a market, and work towards partnership with a company that will be at the core of multiple new technologies.

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3. Company Overview

3. 1. Samsung Group

Samsung Group is a Korean Chaebol (conglomerate) led by its Chairman Lee Kun-Hee, son of the founder. The group consists of 83 companies incorporated in Korea, some with closer links than others, some independently listed on the Seoul stock exchange. Each major company has

affiliates in Korea and overseas, and the group collectively represents about 1000 business entities globally. This report considers only the value chain of Samsung Electronics. It should be noted that the Group is loosely coordinated through the Chairman's office, and there is, at this time, no formal holding company. However the group companies act as a family - for example the containers of Samsung Electronics' products would normally be handled by Samsung Electronics Logitech, through systems maintained by Samsung SDS on a global ERP system and these two entities would handle insurance through Samsung Fire and Marine Insurance. The 83 firms that are tied together in this complex structure provide 13% of South Korea's gross exports.

3. 2. Samsung Electronics Corporation

In 2011, Samsung Electronics Corporation Ltd. sales exceeded C\$150 billion (165 trillion Korean Won), a 7% increase over 2010. The company employed 190, 464 employees directly and through subcontracts an estimated 800, 000 globally in 2010. The bets that Samsung Electronics placed successively in the past on investment to become the leader in production of Dynamic Random Access Memory (DRAM) chips, liquid-crystal display screens and mobile telephones have paid off handsomely. In the next decade, the group plans to branch out further, investing C\$20 billion in five fields in which it is a relative newcomer: solar panels, energy-saving Light-Emitting Diode (LED) lighting, medical devices, biotech drugs and batteries for electric cars. Although these industries may seem quite different from each other, Samsung's strategy is based on the belief that they have two crucial things

in common. They are about to grow rapidly, thanks to new environmental rules (solar power, LED lights and electric cars) or exploding demand in emerging markets (medical devices and drugs). Plus they would benefit from a steady injection of capital that would allow large-scale manufacturing and thus lower costs. By 2020, Samsung group predicts that it will have sales of C\$50 billion in these new areas, and that Samsung Electronics will have total global sales of C\$400 billion.

3. 2. 1. Management Structure by Product and Region

Samsung's macro organisational structure can be summarized as shown in figure 1 below. This shows Samsung divided into three main areas, two business divisions, DMC (digital media and communications business) and Device Solutions (mainly memory but also LCD and other components), and the SAIT grouped with the new business team. Below these macro groupings are nine individual product divisions. A further consolidation of product divisions into these two divisions is planned for 2012.

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Figure 1 shows the way that Samsung thought about its businesses in 2011-2012. Note that SAIT is seen as an equal part of the organisation, and that the new business team is reporting through SAIT.

The sales and marketing for Digital Media and Communications is divided into regional sales areas, but sales are concentrated in Seoul for the Device Solutions business.

Figure 1: Samsung Electronics Organisation

CEO

Digital Media and

Communications

-
-
-
-
-
-

Visual Display

Digital Imaging

IT Solution

Mobile

Communication

Telecommunication

System

Digital Appliance

-
-
-
-
-
-
-

-
-

North America

Europe

China

South East Asia

South West Asia

CIS

Middle East

Latin America

Korea

Device Solutions

-
-
-
-

Samsung Advanced

Institute Technology /

New Business Team

Memory

System

LSI

LCD

Source: Samsung Electronics Sustainability Report 2011, pp 7i

3. 2. 2. Samsung Overseas

Samsung is growing rapidly overseas, and every month a higher proportion of manufacturing, sales and a gradually increasing volume of Research and Development (R&D) take place outside of Korea. The total gross value of Samsung's domestic and overseas trading is about C\$180-190 billion.

Increasingly production is taking place overseas, for mobile phones in Vietnam and to a decreasing extent in China. However China is seen as the future of all Samsung major component manufacturing and the company has about 30 subsidiaries in China. ii

Samsung has listed its company in two overseas stock markets, the London Stock Market and the Luxemburg Stock Exchange. iii

Samsung has research and development representatives' offices and sales offices worldwide. There are 18 R&D centres across the globe. For sales, in Asia Pacific countries, Samsung has 18 sales representative offices, five offices in Commonwealth of Independent States (CIS) countries and Baltic countries, 16 offices in European countries, 13 in Middle East and African countries, six offices in North America and six in Latin America. iv

Samsung Electronics had 144 consolidated subsidiaries in 2011, of which 18 were newly consolidated through the acquisition of Medison - a Korean medical equipment company - not including Samsung Gwangju Electronics and SESZ.

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3. 2. 3. Business description: Financial summary

Figure 2: Samsung Electronics Financial Summary

Liability equity

1. 54%

240, 000

Gross profit

Operating profit

Profit before income tax deduction

0. 53%

154, 630

51, 964

41, 729

10, 925

12, 192

9, 761

6, 032

6, 578

5, 526

-0. 12%

-0. 13%

-0.4%

-0.16%

-0.2%

31,532

40,000

0.0%

52,860

90,000

0.14%

0.12%

0.13%

0.2%

0.06%

0.4%

0.29%

0.6%

0.50%

0.54%

0.67%

0.8%

121,294

140,000

1.0%

136,326

1.4%

1.2%

165,000

Net profit

190,000

17,297

19,329

16,417

1.51%

1.58%

1. 8%

1. 6%

Sales

Net debt equity

16, 250

17, 160

13, 730

Debt/Equity

1. 61%

Current ratio

2. 0%

-10, 000

FY2008

FY2009

FY2010

FY2011

FY2008

Source: Samsung Electronics Financial Highlights (www. Samsung. com)

FY2009

FY2010

FY2011

Samsung's growth has been rapid. In 2010, the company achieved sales of C\$140 billion (KRW 154 trillion) – a growth of 13.2% in Korean Won (KRW) revenue, and 7% KRW revenue growth in 2011. In terms of net profit, the company achieved its highest ever profit after tax of C\$14.92 billion, (10.4%) of sales in 2010, and C\$12.5 billion (8.3%) in 2011. Samsung has a sizeable cash reserve and intends to use this to acquire companies which take it to its new strategic areas. It claimed to be looking at 20 possible acquisitions in November 2011, and has bought two medical equipment suppliers – one of its new strategic directions noted above – in the second half of 2011. Samsung divides the revenues of its product groups into four categories as shown in figure 3. Device Solutions is divided into semiconductors and LCD which in 2011 represented 22.4% of revenue and 17.7% respectively. Digital Media is divided into telecommunications 33.6% of revenue (subdivided into mobile and others, of which 96% is mobile and 4% is systems) and digital media at 35.7% (divided into visual devices and others). Compared with 2010, this is a striking rise in telecommunications.

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Figure 3: Samsung Electronics Sales Performance by Segment

FY2009

FY2010

FY2011

60

51. 26

55. 53

58. 39

Unit: KRW Trillion

58. 92

70

41. 20

40. 07

29. 92

29. 24

30

25. 84

26. 81

40

36. 99

37.64

50

20

10

0

Semiconductor

LCD

Telecommunication

Digital media

Source: Samsung's Earning Release, 2011Q4

FY2009

FY2010

FY2011

4Q2009

4Q2010

0. 01

0. 41

0. 02

Unit: KRW Trillion

10. 11

12

0. 48

0. 17

0. 57

Figure 4: Samsung Electronics Operating Profit Performance

4Q2011

7. 34

8. 27

10

8

0. 04

0. 16

1. 41

0. 49

2. 64
1. 05
1. 44

0. 53
0. 10

0. 75

1. 71
1. 99

2

1. 34
1. 80
2. 31

2. 06

4

3. 06

4. 09
4. 30

6

(0. 22)

(0.00)

0

-2

Semiconductor

LCD

Telecommunication

Digital media

Others

Source: Samsung's Earning Release Q42011 (note set top box transferred from Telecom to DM&A in 2011)

Others include other businesses including some items which might be considered part of a future connected vehicles division, although for practical purposes at present, all connected vehicle activities are contained within the telecom or digital media segments, or handled by the non-consolidated subsidiary, Seoul Commtech. All of Samsung's products use their own semiconductors and LCDs.

Figure 4 shows that the semiconductor cycle swung heavily in Samsung's favour in 2010 with a great leap in profit, and digital media saw a drop, while in 2011, the semiconductor cycle swung against Samsung and for the first time telecommunications (led

by smart phones) produced more profit than semiconductors. In turn, smart phones are leading to a rise in the development of non-memory semiconductors.

Other affiliates produce other components that go into these devices and from time to time appropriate affiliates are merged with Samsung Electronics. In late 2011, after a group-wide assessment of the structure, SEC is considering absorbing Samsung LED. Possibly Samsung Mobile Display will merge with the LCD division. vi

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3. 3. Samsung Electronics' product groups' performance 2011 YOY Figure 5 shows that telecommunication's share of total sales is rising rapidly from 24.8% in 2010 to 28.8% in Q1 2011 and to 34.7% in Q3 and 37.6% in Q4. In terms of profit, semiconductors and display products were subject to the downswing of the semiconductor price cycle, which is both a function of global demand and supply, and the cycle of innovation and investment.

Figure 5: Samsung Electronics Sales Performance

Percentage contribution of scale

Q1

Q2

Semiconductor

24.8%

23.2%

DP (LCD)

17.6%

18.0%

Telecommunication

28.8%

30.9%

Digital Media

36.6%

35.7%

Others

-7.7%

-7.8%

Total

100.0%

100.0%

Source: Samsung Electronics' Financial Report, Divisional Performancevii

Q3

23.0%

17.2%

34.7%

34.7%

-11.0%

100.0%

Q4

19.3%

18.0%

37.6%

135.8%

-11.0%

100.0%

Telecom is growing dramatically led by the rise of the smart phone. Without mobile telecom, Samsung Electronics' sales revenue would not have been growing in 2011. The wired world (the "ubiquitous world" in Korean parlance) is currently the engine driving Samsung Electronics forward.

Despite this, the majority of investment for 2012 will be in semiconductors and display products, notably advanced display (OLEDs) products which will go into smart devices, and non-memory chips. Samsung plans to increase its investment by 18% in 2012 to KRW 43.1 trillion (C\$39.2 billion) of which KRW 12.1 trillion (C\$11 billion) will go into R&D (a 20% increase over 2011).

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4. The Basic Global Value Chain of Samsung Electronics

4.1.

Basic Value Chain

Figure 6 illustrates that the Samsung value chain is based broadly on the Oracle value chain for hi tech businesses, with the addition of logistics, which play such an important role in a company of the size of Samsung Electronics.

In this section the basic

framework of the Samsung value chain is presented so that the distinctiveness of the mobile media value chain and the connected vehicle value chain can be readily understood. This closely relates to how Canadian companies might seek to interface with Samsung. There is also the spatial dimension since these activities do not take place in the same space, but across the entire globe, although heavily concentrated in Korea, China and Vietnam.

Supporting
activities

Primary activities

Figure 6: Samsung Electronics Value Chain

Technology and
product planning

Design and
engineering

Procurement

Distribution order

planning and

forecasting

Outbound

logistics

Marketing

Firm

infrastructure

Inbound

logistics

Sales

Manufacturing

Service

HR

management

Source: Profitable Innovation in High Tech, Oracle (KABC analysis)

For Samsung, the activities of basic research, product development and design are a primary activity, unlike Porter's original value chain model that classified these as support activities.

We therefore designate technology development and part of product

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development to the first step of the value chain, prior to procurement and inbound logistics. This view of the value chain potentially adds more value-added in this stage for connected vehicles, where the business model is not yet established, than for mobile technology where Samsung is already a global leader. As will be shown in the next section, Samsung has developed a complex organization that can both develop new products and improve existing products.

4. 2.

Structure of the R&D Value Chain

Since the late 1990s, Samsung has progressively taken competitive leadership

first in memory chip design, then in LCD technologies and now mobile telephony so that it is breaking new frontiers in product design and integrated technology at each stage. This is recognised even by Apple's I-product family, both in its purchase of components from Page 13

Samsung as the best, but not necessarily the cheapest available and its global legal campaign against Samsung.

4. 2. 1. Samsung's R&D organisation.

Figure 7: Basic Goals of R&D

Technological and product planning

For hi-tech companies, investment in technology development is a crucial

part of value chain activities since hi tech products are changing rapidly. In case of Samsung, the total expenditure of R&D to sales in 2010 was 7%.

- 1.
- 2.
- 3.
- 4.

R&D in Samsung plays a vital role as innovations and intellectual properties are developed in R&D' s area.

Expanding overseas R&D Centres.

Focusing on recycling technology, because of customers concern about Go Green Technology. Registering all innovations in order to get patents

Design and engineering

As a hi-tech company which produces various types of hi tech products in different segments (mobile media, semiconductors, home applications), Samsung has to consider that the designing process is one of the fundamental activities in creating value. Since hi tech products are changing rapidly, the rapid creation of designs are needed to compete in the global market. For product designs, Samsung has product design centres that are located in the following countries: 1. Samsung Design Europe (London)

2. Samsung Design Milan (Milan)
3. Samsung Design China (Shanghai)
4. Samsung Design Japan (Tokyo)

5. Corporate Design Centre (Seoul)
6. Samsung Design America (San Francisco)
7. LA Lab (Los Angeles)

Source: Profitable innovation in High Tech, Consultant's Estimate based on Samsung's Data

Samsung R&D has three layers. The first two layers are core to technology development and product planning;

-
-
-

The Samsung Advanced Institute of Technology (SAIT) - ensures Samsung's technology competitiveness in core business areas, identifies growth engines for the future, and oversees the securing and management of technology including patents.

The R&D centers of each business focus on technology that is expected to deliver the most promising long-term results. Each division of SEC has its own research department, but all of these can outsource projects both to SAIT, and to third party institutions.

Divisional product development teams, working with design centres, are responsible for commercializing products scheduled to hit the market within one or two years.

SEC has spent about US\$7~10 billion per annum on R&D in recent years (about 7% of gross earnings.)

Page 14

Figure 8: Samsung Electronics R&D Expenses

12

Unit: KRW Trillion

9.98

10

9.10

8

7.04

6

4

2

0

2010

2009

2011

Source: Samsung's Income Statement 2011

Samsung has 18 R&D Centers in nine countries. Figure 9 shows 12 of these centres by activity.

Figure 9: Details of 12 major R&D Centres outside Korea

Center Name

Samsung Information Systems America,
Inc. (SISA)

Dallas Telecom Laboratory (DTL)

Samsung Electronics Research Institute
(SERI)

Moscow Samsung Research Center
(SRC)

Samsung Electronics India Software
Operations (SISO)

Samsung Telecom Research Israel
(STRI)

Beijing Samsung Telecommunication
(BST)

Samsung Semiconductor China R&D
(SSCR)

Samsung Electronics (China) R&D
Center (SCRC)

Samsung Yokohama Research Institute

R&D Areas

Strategic parts and components, core technologies

Locations

US

Technologies and products for next-generation

telecommunications systems

Mobile phones and digital TV software

US

Optics, software algorithms and other new technologies

CIS

System software for digital products, protocols for

wired/wireless networks and handsets

Hebrew software for mobile phones

Asia-Pacific

Mobile telecommunications standardization and

commercialization for China

Semiconductor packages and solutions

Asia-Pacific

Software, digital TVs and MP3 players for China

Asia-Pacific

Core next-generation parts and components, digital technologies

Samsung Poland R&D Center (SPRC)

STB SW Platform Dev., EU STB/DTV commercialisation

Samsung India Software Center (SISC)

S/W Platform and Application Design, Graphic design

Source: Samsung Electronics' Website, Research and Development

Europe

Middle East

Asia-Pacific

Asia-Pacific

Europe

Asia-Pacific

In mobile phones, R&D and design may be taking place in multiple centres, with the Solution divisions in Korea preparing products for external customers - like Apple, and for its internal customers in Samsung. Samsung will open a new software centre in Korea and a new media centre looking for content and apps in Silicon Valley in 2012.

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4. 3.

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Procurement

Figure 10: Procurement objectives

Procurement

Samsung creates value from the procurement process through the following ways: •

-
-

Creating opportunity for Local Procurement and Global Procurement.

Opportunity for global procurement will give Competitive Advantage for the company to secure good suppliers

Establishing well managed functions to maintain relationships with suppliers and partners through: 1. Establishing Samsung Technology Sourcing Collaboration partnerships 2. Supporting IT infrastructure to improve the capabilities of partner companies 3. Creating Cost Saving Project Innovation processes (Pertinent departments of Samsung electronics and partner companies can develop cost saving initiatives)

Source: Profitable innovation in High Tech, KABC's analysisviii

Procurement within the firm takes on a different function from procurement in companies like Apple or Dell, because of the intra-firm nature of many of the components, which most electronics companies do not produce components themselves. This may cause problems for external suppliers and would-be suppliers because their product may well straddle two or more divisions which share a component (outsourced from another supplier and or

internally

from Samsung). Because so much of Samsung's activities are intra firm, the procurement process with external suppliers seeks to replicate the intra firm system, rather than the external procurement system, which may be more recognizable to North American suppliers. Samsung seeks to create a family of accredited suppliers and often advertises opportunities only to this family. Once inside the family, new horizons are offered. Outside the family, supplying to Samsung is difficult. Figure 9 shows how Samsung sees the recruitment of external partners. Figure 11: External Relations Partners and Supplies (Procurement)

Samsung uses a core competency proposal system for those who wish to become a supplier, open to any company, based on the following steps:

Application

(Download the

personal, fill it,

and send through

email)

Review and

feed back

processing

Partnership

Cooperation Policy

Samsung Electronics promotes a win-win policy based on cooperation for

mutual benefit with cooperating companies. Some of the programs provide cooperation by providing equipment funding for plant modernization and localization, promoting productivity enhancement through site improvement, dispatching expert manpower to strengthen efficiency and providing ERP consulting.

Source: Samsung Electronics' Website, Global Procurement

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4. 4.

Logistics

Figure 12: Inbound Logistics Concepts

Inbound logistics

Reinvented logistics as a comprehensive total logistics system centering on Samsung 1.

2.

3.

Currently Samsung has logistics companies as its subsidiaries. Samsung also has a major subsidiary to accommodate the total logistic service named “ Samsung Electronics Logitech“

Samsung Electronics Europe Logistics which is also classified as major subsidiary

Source: Samsung's Business Report Q2 2011

Logistics is handled in a unique way in Samsung so that it covers many administrative processes. It is more complex than described in a basic value chain model. Core building blocks for components plus combined internally and externally sourced components are shipped to the assembly factories, either from Korea or directly to the overseas plant by Samsung Electronics Logitech which handles both inbound and outbound logistics and goes further in handling payments and processes with outsourced companies working seamlessly with the global ERP system maintained by Samsung SDS.

4. 5.

Assembly

Figure 13: Manufacturing Concepts

Manufacturing

1. Manufacturing:

Semiconductor Manufacturing, Component Manufacturing,

2. System Manufacturing:

Software and Application manufacturing.

3. : Device Assembly Packaging

(Batteries and other components), Label Assembly

Manufacturing of all components for Samsung Electronics' products are spread out around the World. Factories are mostly located in Korea, China, Vietnam, and Indonesia. Some countries produce specific product. For instance, India R&D factory produces software application, and Samsung Austin Semiconductor focuses on production of semiconductors.

Source: Samsung's annual report 2010, page 88 (global network)

Figure 14: Samsung Electronics Production Plants

Europe

3

North and South

America

5

Korea

9

CIS

1

Asia Pacific

22

Source: Samsung's annual report 2010, page 88 (global network)

Each division is responsible for its own factories and assembly plants. No outsourcing of assembly takes place as far as is known. In 2011, the major locations of assembly for mobile phones were Korea, China and Vietnam. Samsung handles its logistics in Asia for components through three key centres, Tianjin, Shanghai and Hong Kong. ix Page 17

4. 6.

Trading support service and outbound logistics

Figure 15: Distribution Order Planning and Forecasting Concepts Distribution order planning and forecasting

In order to create well-monitored distribution process Samsung has an in house logistics company Samsung Logitech. The main role of Samsung Logitech is to provide logistics of Samsung Electronics product for domestic, international, and B2B cooperation.

Current capital: 5 Billion Won

Networks Abroad: 600 partners

Domestic Partners: 3, 200

Samsung Electronic Logitech is a specialized company which handles a full range of trade support functions as well as logistics. It negotiates payment collection for Samsung Electronics export products and performs insurance claims where appropriate directly liaising with Samsung Insurance company. It helps export product payment collection by issuing the documents specified on the letter of credit and presenting them to the bank after loading the export products.

Figure 16: Outbound Logistics of Samsung Electronics

Outbound logistics

Warehousing & Shipping

Shipping process consists of three aspects:

Shipping Method, Shipping charges, Shipping notification Shipping issues.

For warehousing process, company should be able to manage warehousing

process, reducing warehousing cost. Here, Samsung has main distribution centres where are located in Tianjin and Suzhou as they are the important features of the firms global supply chain architecture and handle thousands of electronics products annually.

Source: Consultant's estimate based on Samsung's Annual Report 2010

4. 7.

Marketing and Sales

Figure 17: Marketing and Sales Value Chain

Marketing and Sales

-

Regional Head Quarters are located in nine overseas countries; North America, Latin America, UK, Singapore, China, Russia, UAE, and India

-

Overseas Production networks are located in four big regions; Asia Pacific CIS, Europe and North and South America.

-

Overseas Sales Offices are located in six big regions;

Asia Pacific, CIS Baltics, Europe, Middle East and Africa, North America and Latin America

Source: Samsung's annual report 2010, page 88 (global networks)

There is a marked difference between the two core divisions of Samsung Electronics in that only the DM&C division has a globally based marketing operation. The device solution business is a B2B business with a quite different structure. Each major market has a DM&C sales and marketing subsidiary, which works with partner sales organizations.

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Figure 18: Samsung Electronics Sales & Marketing Network

South America

6

Asia Pacific

13

North America

5

Middle East and

Africa

13

Source: Samsung's annual report 2010, page 88 (global networks)

4. 8.

After-sales

Figure 19: After-sales Value Chain

Service

Most of the customer complaints can be applied through the website; 1.

2.

3.

Contact support through live chat, emails, and twitter

Registering product warranty online through website

Providing online service request, and online service tracking

Source: Samsung Electronics' Website, Consumer's Section

Korean companies excel at after-sales because in general the reliability of the product is so high that returns are rare, and defects normally replaced with new items so that the failed product can be studied. An example can be given for Switzerland. In 2011, Samsung signed an agreement with a Switzerland supply chain company CEVAx. Under the contract, CEVA will organize pickup of return devices, such as phones, flat screens, printers and refrigerators from Samsung's service partners across Switzerland and bring them to a central laboratory. CEVA employees will carry out quality control activities on behalf of Samsung to establish if the items have an inherent defect or can be repaired. This kind of operation can be found in every market.

Figure 20: Samsung Electronics Service Centres

16, 000

14, 000

13, 997

12, 000

10, 000

8, 000

6, 000

3, 879

4, 000

3, 102

1, 861

2, 000

1, 213

1, 083

1, 296

1, 125

437

0

Global

North

Latin

America America

Europe

CIS

China

South

South

Central

East Asia West Asia Asia

Source: Samsung Electronics' Customer Delight Service Report

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4. 9.

Support Activities

Figure 21: Samsung Electronics Support Activities

Firm infrastructure

1.

2.

3.

Perfectly executed financial support

Good Corporate Governance

Having well-established infrastructure to support new investment

HR management

-
-
-
-

Focus on high skill employees in

Engineering, IT and management areas:

Investing more in research capability,

Because high technology companies need

people who can innovate product in order to compete in the market.

Improving training either for local employees

or global employees

Source: Consultants estimate based on Samsung Electronics' Reports

Samsung is also supported by what is rated as the most professional infrastructure of any company in Korea. In terms of financial support, investor relations, and the handling of finance and investment funds are all those of a first rate organisation. This goes as far as creating venture funds

to foster potential suppliers. Samsung has the Samsung Venture Investment Corporation (SVIC) that has the main role to provide financial resources to start-up companies in the areas of information technology, communications, semiconductors, electronics and biotechnology. xi

Figure 22: Samsung Electronics Lists of Venture Capital Association Cos

Name of Association

Organized New Technology Investment Association SVIC No. 4

Organized New Technology Investment Association SVIC No. 6

Organized New Technology Investment Association SVIC No. 7

Organized New Technology Investment Association SVIC No. 8

Organized New Technology Investment Association SVIC No. 9

Organized New Technology Investment Association SVIC No. 10

Organized New Technology Investment Association SVIC No. 11

Organized New Technology Investment Association SVIC No. 12

Organized New Technology Investment Association SVIC No. 13

Source: Samsung Electronics' website, affiliated companies

Amount of collection

150 billion won

90 billion won

15 billion won

10 billion won

15 billion won

2 billion won

50 billion won

10 billion won

30 billion won

Date of

Establishment

1992. 12

2005. 07

2005. 07

2005. 12

2006. 01

2007. 07

2008. 01

2008. 06

2009. 01

4. 10. Samsung Product Lifecycle Management

Samsung has recently set up an Eco-Design Assessment System to further support business divisions. This system ensures that Samsung's products such as LCD, semiconductors and mobile media devices comply with the global environmental regulations. In 2009, Samsung upgraded the system from

Eco-Design Assessment System into Eco-Rating system for all its products.

The eco-rating consists of a three point scale: Eco-Product, Good Eco-

Product, and Premium Eco-Product. xii Samsung expects this to become

more important in the future, and seeks assistance from external companies

in this area. Figure 19 shows how the eco design concept is built into the value chain, with the green areas representing the new activities Samsung has established.

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Figure 23: Samsung Electronics Value Chain of Product Lifecycle

Technological and
product planning

Recycling process

Recycling service

Design and engineering

Eco-design activity

Recycling products

consist of;

Consumer Electronics

Products, IT products,

Printer Toners, Battery

Recycling

Procurement

Recycling partner

Service

Marketing and
sales

Inbound logistics

Outbound
logistics

Distribution
order
planning and
forecasting

Manufacturing:

- 1.
- 2.
- 3.

Premium EcoProduct

Good Eco-Product

Eco-Product

Source: Consultants analysis based on Samsung's Informationxiii

Through the recycling process, Samsung seeks to create partnership with recycling companies. So far, Samsung has collaborated partnership in recycling activities with the following US companies:

-

-
-

Chicago-based SIMS Group Limited, which has operations on the Northeast region, the West Coast, the Midwest, and the South.

Wisconsin-based CRT Processing LLC, which has operations across the Northeast region, the Midwest, and the Pacific Northwest regions. New York-based Eco

International LLC, which has operations across the midAtlantic, Midwest, and West. Minnesota-based JFRC, LLC, which operates in the northern Midwest.

In addition, Samsung also collaborates with Global Electric Electronic Processing (GEEP), which is located in Barrie, Ontario, and Edmonton, Alberta. The profile of GEEP can be seen through GEEP's website (www.geepinc.com). In order to find the opportunity in this part of value chain, partnering candidates should follow the Samsung Waste Electrical and Electronic Equipment (WEEE) Management Policy (US and Canada) set out in figure 24:

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Figure 24: Samsung WEEE Management Policy

Recycling companies

Samsung's Policy Concerns (General Compliance) for partners: 1.

2.

3.

4.

Have a high operational level using state of the art environmental technologies which take into account the economical dimension

Comply with the applicable national, state and local law, and maintain a record documenting compliance with legal and regulatory obligations applying to all activities undertaken on site. Companies also have to record the partner's activities

Vendors must notify any known or suspected violations of Samsung requirements. Any occurrences that involve security, health, safety and environmental must be reported to the Samsung vendor without delay.

Properly manage End-of-life Electronics through recyclers who are committed to the eStewards process.

Source:

http://www.samsung.com/us/aboutsamsung/citizenship/download/US_and_Canada_Recycling_Policy_09-12-11.pdf

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5. Value Chains of Mobile Media and Connected Vehicles

5. 1.

<https://assignbuster.com/global-value-chain-analysis-on-samsung-electronics-essay-sample/>

Overview - the theory of convergence

5. 1. 1. Overview of R&D and Product Development

This section focuses on the existing mobile media value chain, and suggests a future value chain for connected vehicles. The value chain follows the broad description contained in section 4.

The initial description focuses on two areas; technology development; and where Canadian companies might seek to get involved in sourcing. Samsung Electronics and affiliates are determined to maintain leadership in all areas related to mobile and media technology. The intellectual spearhead of this is Samsung Advanced Institute of Technology (SAIT). The mission of the corporate research organization is to create a technology foundation for the future. “ We work with research communities around the world to identify challenges ahead, share our findings, and continually explore possibilities for the future. We push the frontiers of technology every day in a variety of research fields. Today our research focuses primarily on Future IT (ranging from exploratory work in beyond 4G to intelligent web and multi-core); New Materials & Device (including areas as diverse as flexible display, new materials and Nano technology); Energy & Environment (including areas as EV battery, solar cell and water treatment); and Bio & Health.” xiv

SAIT is eager to build a close relationship with global experts to leverage their knowledge, experience, and technology insights to help create new businesses for Samsung. As stated, SAIT's core areas consist of four areas: Future IT and Convergence, New Materials & Nano Technology, Energy and

Environment, and Bio & Health. xv From a product development point of view, mobile media falls within the scope of work of two business divisions. The first is the mobile division of the telecom business unit, and the second is digital media which including computers as well as TVs. The recent decision to place the Galaxy Tablet in the mobile division of telecom meant a transfer of expertise and closer cooperation from the digital media division. (In 2012, Samsung will announce a restructuring intended to reduce interdivisional issues). In the future, Samsung expects that digital technology that shapes life style will be more important. The need to create more realistic and interactive personal multimedia services, build topologies that converges private and local networks, and make effective use of IT devices and components into emerging areas will be increased. In order to respond to such demand, SAIT is focusing on real 3D, communication for various topologies, more efficient multi-core, software-based data intelligence, as well as convergence technologies based on IT, BT and NT. It will be noted that connected vehicles are not specifically mentioned within the current vision, but lie within the broader Korean vision of convergence and “ubiquity.”

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Every year, SAIT also carries out collaboration in various research areas in order to innovate new ideas and methods from outside that can vitalize its internal organization. This collaboration includes four programs: xvi

1. GRO (Global Research Outreach): a program for academic collaboration. 2. CORE (Collaboration Open Research Expert): a network for communicating with global technology leaders. In this program, the participants may share their ideas on technology fusion and multidisciplinary collaboration by advising on research strategy and collaborating on development of new business opportunities and research themes.

3. SRP (Strategic Research Partnership): a research partnership for industrial development

4. Strategic Venture Investment

Global Research Outreach Program (GRO), research proposals are accepted annually from various universities from around the world. How might a Canadian organization find a way to be a partner of Samsung in research areas of interest? The answer from figure 26 is to collaborate with Georgia Tech. The following table shows the list of research themes during for the Year 2011.

Figure 25: SAIT Themes of Research for the Year 2011

Number of

Research

Proposals

4

3

1

1

4

4

4

4

1

1

3

3

2

Theme

Advanced Media & computing

Proactive Cloud Computing

Proton coupled electron transfer (PCET)

System Architecture

Integrated Photonic Interconnect

Material & Device

Environment

Medical

Organic Solar Cell

New Memory

Next UX

Future IT

SOC

Source: SAIT's website, Open Innovation

Does the research contribute to development
of connected vehicles/mobile media

Yes

Yes

Yes

Yes

Yes

Yes

Yes

No

Yes

Yes

Yes

Yes

Yes

Figure 26: SAIT's most frequent collaborators

7

6

Georgia Institute of Technology (GIT)

MIT

6

5

5

4

3

2

2

2

1

0

Total number of participants

Source: SAIT's website, Open Innovation

Does the research contribute to development
of connected vehicle?

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A second research institute, Samsung Information Systems America (SISA) based in California is the Samsung Electronics' US R&D Centre. SISA also gives an opportunity for Canadian companies and institutions to collaborate in their respective research areas. The main business of SISA is to research emerging technologies to create new businesses, and to develop core technologies to create new businesses, and developing core technology

itself. SISA's core areas consist of: Advanced Printing Solutions, Computer Science, Digital Media Solutions, Standardization, and Storage^{xvii}. Through the Samsung Technology Sourcing Collaboration programme, SISA opens the opportunity to collaborate with third parties in innovation.

Figure 27: SISA Partnership Collaboration

Type of Collaborations

University Relations

Description

Collaborate with Samsung Advanced Institute of Technology

1.

Venture & Entrepreneur

Intellectual Properties

Licensing

Collaborate in producing healthcare or robotics products.

2.

SISA also has Open Innovation Center which focuses on creating new business. It cooperates with Samsung Product divisions and Samsung Venture Investment Corporation to provide funding to help Samsung Electronics to innovate in the respective field of interests.

Purchasing intellectual property from start-ups, corporations, IP auctions and markets. Engaging in corporate relations and partnerships specifically in corporate research collaboration and corporate-level partnership activities.

Industry Partners

Source: SISA's website

A third research institute - Samsung India Software Operations (SISO) is located in India and looks at the global development of software. Samsung has not yet announced whether its new applications R&D centre in Silicon Valley to be established in 2012 will be independent or part of the existing system

Figure 28 illustrates how the interconnected network of the three R&D centers: SAIT, SISA and SISO work together.

Figure 28: Interconnection Network of R&D Activities

Samsung Electronics

SAIT

CORE

GRO

SRP

Venture

Investment

SISA

SISO

University

relations

Industry

partners

Samsung Venture Investment

Corporation (SVIC)

Venture and

entrepreneur

Intellectual

properties

licencing

External Participants of Research Activities in Samsung Electronics R&D: 1.

2.

3.

4.

5.

Universities

Small and Medium Enterprises

Venture Companies

Intellectual Property sellers or owners of portfolio of IP

Hi Tech Global Experts

Source: Consultants analysis based on Samsung's information

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5. 1. 2. Patents

In 2010, alone, Samsung was awarded 4, 551 patents by the US trademark and patent office, and ranked second on the world's most inventive companies list. These are managed by SAIT.

5. 1. 3. Decision making criteria and decision trees related to becoming a research partner

Figure 29 summarizes the potential of becoming Samsung Electronics' partner in the research area

Figure 29: SAIT Decision Tree for Research Partnership

Does Samsung Research

Institute collaborate with

external parties?

Yes

1.

2.

3.

4.

What are the criteria to
become research partner of
Samsung Research Institute

No

Do you have ideas to be input of
research in this areas:

Future IT

New Materials and device

Energy and environment

Bio and He