

# new directions:

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new directions:  
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*“Reengineering can help make dramatic reductions in cost, improve the speed and quality of service to clients and also drive innovation of new services to clients.”*



## Welcome to new directions: 15

Welcome to our latest edition of new directions: our journal for business leaders, innovators and change agents. Our focus is on **innovation and transformation** and we share the latest thinking and practices in this area in our articles. In this issue focuses on the **innovation lessons learned** from two quite different sectors— **UK law firms** and mobile phones with a focus on **Nokia’s challenges**.

### Law firm reengineering—challenges and lessons learned

Over the past six years we have worked with 6 major UK law firms on a variety of innovation and reengineering projects and also studied how 16 major UK law firms approached innovation, working with Imperial College Business School. So what have we learned? And what advice can we give to those of you considering applying reengineering within their own firms? In this short article I will try to answer these questions. I will begin with a brief introduction to reengineering for those readers not acquainted with this subject (for a more detailed explanation, request a copy of the Codexx whitepaper: *‘Business Process Reengineering in Law Firms - 2010’*).

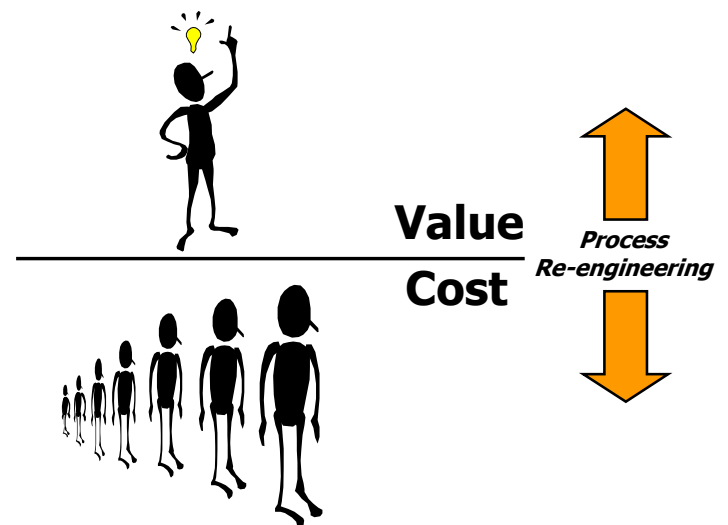
#### Introducing reengineering

The term ‘Business Process Reengineering’ was coined by Dr Michael Hammer in 1993, to describe a systematic approach to step-change business improvements through a radical redesign of its fundamental processes and supporting organisation, together with the application of IT. Whilst this approach built on well established process improvement methods used in factory operations for many years, its application *across a business*, covering support and service functions as well as customer-facing operations, together with its focus on *step-change improvement*, was considered revolutionary. In recognising that, over time, working methods tend to become entrenched and increasingly inefficient and misaligned with customer requirements, Hammer argued for a *‘clean sheet of paper’* examination of how and why work was done. This philosophy was seized on by many major companies in the 1990s and significant improvements in competitiveness were achieved, through improved process design and operation and the application of IT—albeit resulting in a large number of redundancies.

#### So what’s the opportunity for law firms?

Frankly, until the credit crunch hit in summer 2008, the large majority of UK law firms was not interested in any sort of major business improvement programme. Business was extremely good and had been good for many years. The main challenges for law firms were in finding and keeping talent and meeting the high volume of work from clients—driven by a high level of M&A, Property and increasing regulation. However, the onset of the recession in the UK from late 2008 changed everything. Clients began to rein in their spending (M&A and Property work was particularly hit) and seek cost reduction. From 2010, public sector budget reduction also began to impact legal spend. Most law firms responded by cutting their salary costs and laying off associates and some looked to reduce their fixed costs by outsourcing selected support functions. However there is a limit to how much can be done in these areas, without cutting into ‘the meat’ of the firm and hitting the quality of service. The next step in efficiency improvement is in improving the ‘ways of working’ and this is where reengineering comes in.

#### Re-engineering should address both value and cost



#### Law firm reengineering benefits

In our experience in working with law firms, reengineering can help make dramatic improvements in cost performance (we have seen as much as 40% reduction), improve the speed and quality of service to clients and also drive innovation of new services to clients to help improve a firm’s competitive differentiation. It can also help a firm establish a platform for ongoing innovation.

Law Firm Reengineering (continued)

## Preparing for reengineering

To help Partners or Change Leaders in considering or preparing for a reengineering programme in their firm, I have condensed some of our own learning from reengineering in law firms (and other sectors) to address what we have seen as the key challenges and our recommendations for tackling reengineering effectively.

### 'Top Ten' challenges in law firm reengineering

I'll start by sharing the most important challenges we have experienced in helping law firms re-engineer their ways of working and services. Consider these as a 'Top Ten', in no particular order.

#### 1. Limited board and partner support

Making major change in a Partnership is much more difficult than in a Corporate, where the CEO can decree 'It's my way or the highway' and force changes quickly through. Change in a Partnership requires the consensus of the senior personnel and therefore it is critical to have board support in place if major firm-wide change is envisaged. Board support may be in place, but successful execution depends on the active support of the Partners who manage the teams affected. It is not unusual to have vocal support from a Partner until their fee earners are needed to be involved in the programme—then they will resist their fee earner involvement, citing immediate business needs.

#### 2. Lawyers innate conservatism

Or as one ex-Managing Partner put it: "Lawyers don't do radical." They also don't naturally think as business people who provide a service, that just happens to have as a core, legal content. Changing the paradigm of lawyer from legal-centric to business-centric and breaking free of existing (often self-imposed) 'rules' is key to achieving the potential of reengineering.

#### 3. Weak client knowledge and reluctance to engage

Client input is key to effective reengineering, to ensure that services are redesigned with client requirements in mind. However law firms typically do not know their clients' business at all well. Lawyers can be reluctant to ask clients the open and 'naïve' questions needed to better understand their business.

#### 4. Difficulty in getting financial performance information

Law firm financial systems often do not enable individual service-based analysis, to determine, for example, service profitability. Matter coding is also typically at too high a level, so for example, whilst revenue and costs in Employment can be determined, such details cannot be determined in Employment tribunal matters as they are not specifically coded.

#### 5. Approaching reengineering in a structured way

Few law firms think about their business processes as an area for examination or improvement. They often consider IT-led improvement activities, as if implementing an extranet, new Blackberry applications or Case Management alone is the answer to their performance challenges. IT implemented in this way has a well defined (and major) cost but undefined (and often little) actual benefit. IT investment should follow process improvements, as part of a structured reengineering approach which is business and client led. In addition, major change required active 'Change Management', which is a skill that few law firms possess.

#### 6. Leadership

Getting an effective 'Partner Champion' is key to reengineering a business area. But the best partners are often over-loaded with work and not supported sufficiently in delegating this work to enable them to give strong focus on the reengineering programme.

#### 7. Commitment for fee earner involvement

I was once asked by a Department head in a major UK law firm, "Why do we need to get associates involved [in the reengineering programme], can't we just use partners?" It is key that Senior and Junior Lawyers, Paralegals and support staff are involved as they know how work is really done—not just how it is supposed to be done. Getting the best of them released from fee earning work to attend the required reengineering workshops is always a challenge.

#### 8. In-house IT capabilities

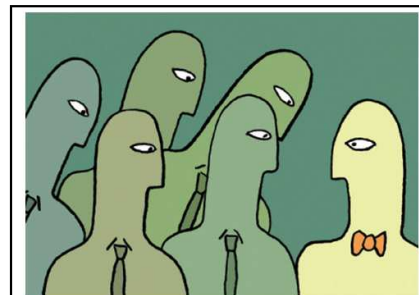
IT is a critical competency for providing professional services effectively and its importance will increase with the need for improving collaboration through e-working and the provision of internet-enabled legal services. Yet all too many law firm IT departments operate far behind best practices in IT strategy, application development and effective user interfaces.

#### 9. Establishing an integrated strategy for innovation & reengineering

A key success factor in successful business change is a focused improvement programme. However, too many firms will dilute their efforts with multiple (often conflicting) programmes for IT, innovation & reengineering.

#### 10. Programme management for a multi-year programme

Reengineering is more akin to a marathon than a sprint and firms need to have the stamina and resources to stay the course. Whilst analysis and redesign work can be completed in a few months, development, piloting and deployment of new services and new ways of working take many months and indeed years to secure the full benefits.



"It's the same each time with progress. First they ignore you, then they say you're mad, then dangerous, then there's a pause and then you can't find anyone who disagrees with you."

Tony Benn  
UK Politician

*"Change in a Partnership requires the consensus of the senior personnel and therefore it is critical to have board support in place if major firm-wide change is envisaged"*

*"Lawyers don't do radical. They also don't naturally think as business people who provide a service, that just happens to have as a core, legal content."*

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Law Firm Reengineering (continued)

## How to make the right start for your own firm's reengineering— the 'Top Ten Dos'

Given these challenges, what should a change leader within a firm do to help ensure success in their reengineering programme? Again, at the risk of sounding like a 'Top of the Pops' repeat, here are my Top Ten recommendations:

1. **Establish a core team** to coordinate the programme within the firm, be the recipient for skills transfer from external consultants and leverage individual project benefits and learning across the firm.
2. **Use an external consultant**—for provocation, paradigm challenging, business approach and reengineering methodology. Yep, I'm conflicted in making this recommendation, but bear with me. Since few law firms have internal competencies in business improvement and they are inherently conservative, the required 'step change' for reengineering needs external competencies and drive. In selecting your consultant, look for experience across multiple business sectors (to bring best practices) and ideally some experience within the legal sector (to have an appreciation of the cultural challenges). Maximise the value from your external consultant by establishing your core team and working closely with the consultant to gain skills transfer.
3. **Make the reengineering programme a strategic project** for the firm, to ensure that it gets the required resourcing and management attention. Get it reviewed quarterly on the board agenda.
4. **Select initial pilot projects** in areas that are important to the firm, have a strong 'burning platform' for change and have a strong 'partner champion'.
5. **Get the best Partners and Associates involved.** Partner Champions should be selected for their energy and ambition, recognising the opportunity that the project provides for their business area and for them personally. In addition, excellent Associates need to be involved in the project team with the support of their team leaders & an appropriate adjustment to their utilisation target. It is key to recognise that understanding how work is really done requires the involvement of associates and support staff—this cannot be a Partner-only exercise.
6. **Force the involvement of key clients**—to ensure that their needs are understood and seek their input into service improvements. Their views will also help change the lawyers' view of the improvements needed in their services. Good clients are only too pleased to be involved—the challenge is to get the lawyers to go and talk to them.
7. **Consider reengineering as a multi-year programme** — not a 6 month exercise—and communicate this across the firm.
8. **Involve IT at an early stage in projects**, as IT resources will be key in delivering new Case and Document Management systems and external internet-enabled services for clients. Evaluate their competencies to determine how well they can provide the required new IT solutions to support the reengineering projects or whether external suppliers will be needed to supply these solutions instead.
9. **Involve Marketing and HR**, to ensure that the 'voice of the client' is sufficiently heard in the programme and that HR can help manage the challenges of changing the firm's skills mix as part of 'right-skilling'.
10. **Put in place reward mechanisms** for those strongest contributors to the programme and publicise rewards—this is key to engaging partners and associates in the new ways of working.

## Focus areas for law firm reengineering

In our work with law firms, we have found that reengineering needs to cover six key areas shown in the diagram below. A client-centric approach ensures that the client's view is strongly represented in the process for re-designing and improving services. Indeed this also helps to improve the nature of the relationship between the firm and its clients. Service redesign requires that services are mapped and broken down into their key work elements to identify where the key value elements are and also where waste is present. Lower value repetitive work elements need to be identified to enable standardisation and performance by lower cost personnel. IT needs to be used to improve internal service performance using Case or Document Management and Workflow tools for example. External. Internet-enabled IT also needs to be used to innovate the service access and delivery to clients.

'Smarter Working' – focusing on the key areas that are critical to law firm service transformation

smarter working

1. Client-centred value

From firm-centric to *client-centric* value

4. e-working

Improve speed, collaboration, cost and consistency by electronic working

2. Disaggregate and de-waste

Break up work into key parts, eliminate non value-adding activities using Lean thinking

5. Systematic innovation

Establish a system, culture and resources for ongoing innovation

3. Standardise & right-skill

Define and deploy the 'one best way' for performing repetitive tasks at the right skill

6. New metrics

Develop and monitor KPIs that reflect the new business focus and methods

A reengineering programme should be used as a foundation for longer term ongoing improvement, by establishing skills within the firm for identifying improvement opportunities, selecting and implementing the best of them. To encourage fee earners to support the new ways of working and also for the management team to ensure that the firm is progressing in the right direction, new metrics are needed to include aspects such as innovation, service performance and cost reduction. There is a major opportunity for law firms to dramatically improve their competitiveness using these proven reengineering approaches—they simply need the will, the focus and the commitment to resource the required projects.

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Thanks to Duncan Ogilvy, KM Partner at Mills & Reeve for his input to this article.

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## Nokia—what went wrong?

“At the end of 2005 Nokia was flying high in the global mobile phone market. Its market share had increased to 34.1% from 32.2% a year before.”

At the end of 2005, Nokia was flying high in the global mobile phone market. Its market share had increased to 34.1% from 32.2% a year before. Its nearest rivals were Motorola with 18.2% and Samsung with 11.1% market share (See Figure 1). By the end of 2006, Nokia’s market share growth had continued and Gartner were reporting that global sales of mobile phones were set for another year of strong growth in 2007: “More attention to the emerging markets and so having more, cheaper phones on the market is obviously driving sales.” As an end note in their report, Gartner stated that there had been speculation that Apple Computer might plan to introduce a phone in 2007.

Global mobile phone market in Q4 2005					
Vendor	Q4 2005		Q4 2004		Growth YTY
	Shipments, mln.	Share	Shipments, mln.	Share	
Nokia	83.7	34.1%	66.1	32.2%	26.6%
Motorola	44.7	18.2%	31.8	15.5%	40.6%
Samsung	27.2	11.1%	21.1	10.3%	28.9%
LG Electronics	16.2	6.6%	13.9	6.8%	16.5%
Sony Ericsson	16.1	6.6%	12.6	6.1%	27.8%
Others	57.3	23.4%	60.2	29.2%	-4.8%
<b>Total</b>	<b>245.2</b>	<b>100.0%</b>	<b>205.7</b>	<b>100.0%</b>	<b>19.3%</b>

Source: IDC

Top Five Mobile Phone Vendors, Shipments, and Market Share, Q4 2010 (Units in Millions)					
Vendor	4Q10 Unit Shipments	4Q10 Market Share	4Q09 Unit Shipments	4Q09 Market Share	Year-over-year Change
1. Nokia	123.7	30.8%	126.8	37.2%	-2.4%
2. Samsung	80.7	20.1%	68.8	20.2%	17.3%
3. LG Electronics	30.6	7.6%	33.9	10.0%	-9.7%
4. ZTE	16.8	4.2%	9.5	2.8%	76.8%
5. Apple	16.2	4.0%	8.7	2.6%	86.2%
Others	133.4	33.2%	92.8	27.3%	43.8%
<b>Total</b>	<b>401.4</b>	<b>100.0%</b>	<b>340.5</b>	<b>100.0%</b>	<b>17.9%</b>

Figure 1: Mobile phone market share 2005 & 2010. Source: IDC

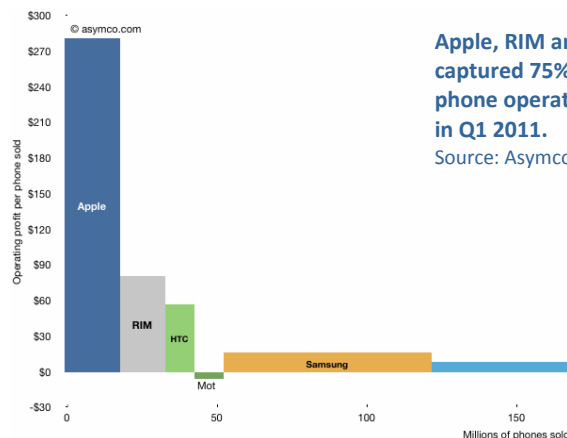
### A new entrant

As we now know, on 9th January 2007 Apple announced its iPhone for release in June. The **iPhone** was effectively a **disruptive entrant** into the mobile phone market, representing a new level of ‘Smartphone’ capability. Smartphones were effectively hand-held computers with phone capabilities, able to provide internet, email, gaming, music, camera and of course phone functions. Although Nokia had long been a leader in this high value sector since it launched its ‘Communicator’ range in 1996 (following on from IBM’s ‘Simon’ product launched in the USA only in 1994), they had focused these products on the business market. In contrast, Apple approached this market from a design-led, user-focused perspective. Whilst the original iPhone had no 3G, no camera and no multi-tasking, the touch screen user-interface and web-access was market-leading and the design of the phone created a strong ‘desire for ownership’ amongst customers.

“The iPhone was effectively a disruptive entrant into the mobile phone market.”

Following Apple’s entrance into smartphones, Google launched out its open-source **Android** operating system in 2008, which has now become the standard for smaller phone makers. On the back of Android, new phone-makers (previously no-name manufacturers for well known western brands) such as HTC began to become significant rivals. At the other end of the value scale, Chinese manufacturer ZTE has emerged to become the fifth largest global phone supplier by volume, based on its focus on low cost phones for emerging markets. In January 2011, Reuters reported that Google’s Android had dethroned Nokia’s Symbian as the most popular Smartphone platform in the last quarter of 2010, ending a reign that began with the birth of the Smartphone 15 years ago.

In the three years to 2011, Apple’s mobile phone volume grew 122%. In contrast Nokia’s shrunk by 2% (see Figure 3). So by 2011 Nokia had found its market share reeling as it faced relentless attack—by Apple and Google at the top end of their market and by Chinese low cost producers at the low end. The result was falling market share and margins. In the first quarter of 2011 Apple, RIM and HTC captured 75% of the global mobile phone operating profits (Figure 2) (Source: Asymco 17-5-11). In February 2011, Nokia was forced to publicly accept that it was in a crisis, following a leaked memo from their CEO Stephen Elop. In it he recognised the major challenges that faced the firm: “While competitors poured flames on our market share, what happened at Nokia? We fell behind, we missed big trends, and we lost time.” He continued: “The first iPhone shipped in 2007, and we still don’t have a product that is close to their experience. Android came on the scene just over 2 years ago, and this week they took our leadership position in smartphone volumes. Unbelievable.” Elop also recognised the challenges at the other end of Nokia’s market: “At the lower-end price range, Chinese OEMs are cranking out a device much faster than, as one Nokia employee said only partially in jest, ‘the time that it takes us to polish a PowerPoint presentation.’ They are fast, they are cheap, and they are challenging us.”



Apple, RIM and HTC captured 75% of mobile phone operating profits in Q1 2011. Source: Asymco

Figure 2: Mobile phone profitability v Volume 2011.

The areas each represent the profit from mobile phone sales in 1Q 2011. The horizontal axis shows the volume of units and the vertical the profit per unit. It thus shows how “efficiently” profits were captured on a unit basis.

“In 1Q 2011 Apple, RIM and HTC captured 75% of global mobile phone operating profits.”

*“In the three years to 1Q 2011, Apple’s mobile phone volume grew 122%. In contrast Nokia’s shrunk by 2%.”*

*“The mantel of ‘thought leader’ in the mobile phone space is now well and truly owned by Apple.”*

*“The key value elements for mobile phones in 2011 are significantly different than they were in 2005, with ‘traditional’ value elements such as battery lifetime replaced in importance ...by attributes such as the user interface.”*

Nokia—what went wrong? (continued)

The memo prepared the way for the bombshell dropped later that week in a Nokia press conference in London. On Friday 11th February 2011 Elop announced that Nokia was dropping their own Smartphone operating systems (i.e. Symbian and Meego/Maemo) and partnering with Microsoft to use the Windows 7 Smartphone operating system. This was truly a bombshell - publicly recognising that Nokia could no longer compete with its own mobile phone operating systems - and resulting in 7000 employees to be laid off in 2011-12 including 3000 Symbian software engineers to be outsourced to Accenture. Elop’s announcement of the planned end of life for the core Symbian operating system, was criticised by industry observers, as with the new Windows’ enabled phones not coming to market for at 9-12 months, there was concern that many potential customers would instead buy from rivals creating a short to medium term impact on Nokia sales.

Company	3yr growth to 1Q 2011	1yr growth to 1Q 2011
Apple	122%	113%
HTC	55%	194%
LG	0%	-10%
Motorola	30%	13%
Nokia	-2%	1%
RIM	50%	42%
Samsung	15%	9%
Sony-Ericsson	-29%	-23%
ZTE	N/A	75%

Figure 3: Volume growth in mobile phone market to 2011

Note: To give an idea of the split between smart and non smart, Nokia’s smart business grew at 18% compounded while its non-smart units contracted at -6% rate over the 3 years to 2011. (Source: Asymco 12/5/11)

### Where did it all go wrong for Nokia?

Although other firms also struggled to keep pace with the market growth in handsets (as shown in Figure 3), as the previously dominant market leader and a company held up as an exemplar in its mobile phone design, Nokia is seen to have fallen even further. Nokia used to be seen as the ‘Thought Leader’ in designing phones that provided excellent functional performance, excellent ergonomics and industrial design and a clear user interface. The mantel of ‘thought leader’ in the mobile phone space is now well and truly owned by Apple, with the Android handsets such as HTC and Samsung chasing closely and Nokia considered by the technical press as not even in the race. How did this happen? How did Nokia fall so far and so quickly? And what can other businesses learn from this story?

In this short article we will examine Nokia’s journey from the clear market leader in 2005 to a company whose very future is under question and identify lessons to be learned. We will do so by seeking to answer three key questions:

1. How well has Nokia kept up with **changing user needs**?
2. How well is **Nokia’s business model** aligned with the global mobile phone market?
3. What are the apparent weaknesses in **Nokia’s innovation system**?

### 1. How well has Nokia kept up with changing user needs?

To answer this question we’ve compared the key elements of value provided by Nokia compared to competition. Customers buy products and services based on what they consider to be the important value attributes of the product/service and how well they perceive suppliers deliver these value elements in the product or service. Traditionally, mobile phones were selected for value elements such as call quality, ease of use and handset size and weight. However Smartphones combine mobile phone functionality with that of a mobile computer.

The user requirements for a non-commodity mobile phone (i.e. a Smartphone) have clearly changed between 2005 and 2011 (Figure 4) with the ‘non-phone’ functionality increasing in relative importance. The market growth and margin is in the so-called ‘Smartphones’ which are really mini-computers. Smartphone users are prepared to trade previously important value elements such as battery life and call quality in return for a slick user experience and access to a large number of software applications (the so-called ‘Apps’). Nokia’s offerings in many of these new value areas is behind that provided by Apple and the Android phones. Apple has been prepared to limit some functionality in return for improving the user experience. In contrast, Nokia has provided more functionality (e.g. Adobe Flash website access, camera functionality and programming capability) at the expense of a more complicated and ‘less slick’ user interface.

Key value elements 2005	User Value	Nokia rating	Leader	Key value elements 2011	User Value	Nokia rating	Leader
Call quality	High	High	Nokia	Call quality	Medium	High	Nokia
Battery life	High	High	Nokia	Battery Life	Medium	Medium	None
User interface	Medium	High	Nokia	User interface	High	Med	Apple
Phone design	Medium	High	Nokia, ?	Phone design	High	High	Apple/Nokia
Affordability	Medium	Low-Med	Far East	Affordability	Medium	Low-Med	Far East
Desirability	Medium	High	Nokia	Desirability	High	Low-Med	Apple
Variants	Medium	High	Nokia	Variants	Medium	High	Nokia
Size & Weight	High	Medium	?	Size & Weight	High	Medium	?
				Camera/Video	High	High	Nokia/Sony
				MP3 player	High	Medium	Sony
				Apps available	Higfh	Low	Apple

In essence, these changes show that the user requirement is no longer for a phone with some capabilities as a computer and entertainment device. Instead it is now for a **computing and media device** that has smartphone capabilities.

Figure 4: Changes in Smartphone mobile phone value elements and Nokia performance 2005-11.

Source: Codexx

*“Nokia has not moved quickly enough to match this new mix of user needs and its strengths as a designer and maker of high quality phones have been made less relevant than before.”*

*“Between 2009 and 2011, Nokia launched 64 phones using 8 different formats and 11 different operating systems. In the same period, Apple launched 2 phone models in 1 format with one operating system (two versions).”*

*“Apple has always spent below the industry average for R&D.”*

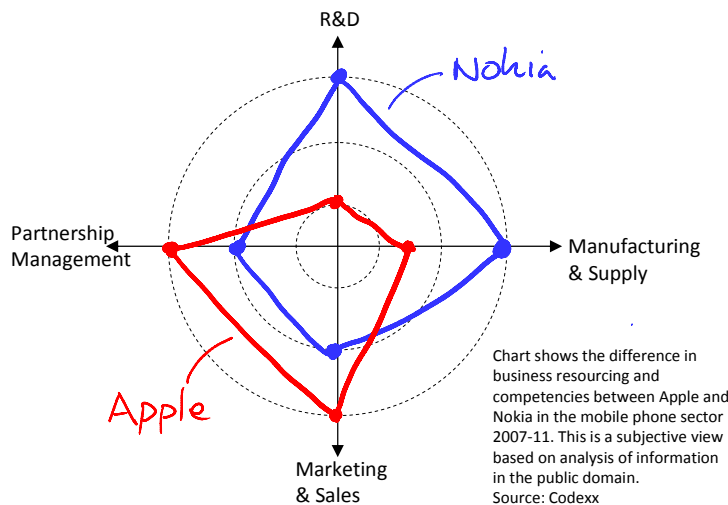
Nokia—what went wrong? (continued)

This significant change in user requirements plays to the strengths of companies with competencies and understanding of the computing world, rather than the telecommunications world. It plays to the strengths of a company like Apple and diminishes the value of Nokia’s telecommunications competencies. So Nokia has not moved quickly enough to match this new mix of user needs and its strengths as a designer and maker of high quality phones have been made less relevant than before. To address this competency gap, Nokia could have sought a joint venture or indeed made an acquisition of a small-medium consumer-focused computing company.

## 2. How well is Nokia’s business model aligned with the global mobile phone market?

A key part of the Nokia value proposition is a high variety of phones to cover a wide range of user needs. The result is that Nokia released 27 new phones in 2010-11 and a total of 64 in 2009-11 (Source: Wikipedia). These phones were in 8 different formats<sup>1</sup> and used a total of 11 different operating system versions<sup>2</sup>. This high level of variety required Nokia to dedicate a high level of technical and management resources to develop, manufacture and support these hardware and software platforms. In the same period, Apple launched 2 phone models in 1 format with 1 operating system (two versions). Thus Nokia’s resources are diluted across a wide range of hardware and software variants,

### Strategic focus: Nokia v Apple



whilst Apple is able to focus its resources much more effectively. As well as facing competition in high-end smartphones from Apple and Android phones from HTC, Samsung and others, Nokia also faces competition at the lower end of its range from Far Eastern rivals such as ZTE. As shown in Figure 2, Apple is operating a ‘low’ volume high margin business in the mobile phone market whilst Nokia is effectively operating a high volume low margin business. These two ends of the market require significantly different competencies and it is a major challenge for Nokia to try and lead in both these markets.

Figure 5: Comparison of Nokia and Apple business models

### Differences in strategic focus

In Figure 5 we have attempted to visually illustrate the significant differences between Nokia and Apple in its approach to the mobile phone market. Each company has a significantly different set of competencies and capabilities, with which it approaches the market. We have considered four key competencies as shown in the diagram.

#### Research & Development

Nokia invests heavily here and the recent patent settlement in which Apple paid Nokia an undisclosed sum for the use of IP used in the iPhone demonstrate Nokia’s global competency in mobile phone technologies. Apple has always spent below the industry average for R&D—between 2.5—3.9% of revenue between 2005 –10. In comparison Nokia spent an average of 13.8% % of revenue on R&D over the past 5 years and Microsoft between 13-15% over this period. (Sources: Gizmodo, Asymco, advfn.com). However Apple’s focus is on technology application, rather than research and development. Steve Jobs summed this up when he said **“Innovation has nothing to do with how many R&D dollars you have. When Apple came up with the Mac, IBM was spending at least 100 times more on R&D. It’s not about money. It’s about the people you have, how you’re led, and how much you get it.”** (Source: Fortune 1998-11-09). As of December 2010, Nokia had R&D presence in 16 countries and employed 30,000 people in research and development, representing approximately 27% of the group’s total workforce. Apple developed its first iPhone in partnership with Cingular Wireless (now AT&T Mobility) over a 30 month period at a reported development cost of only \$150 million (Source: Wired). However, the major phone signal reception problems experienced with the iPhone 4 when it was first launched in 2010 and problems with their moisture ingress indication system show that Apple can ‘drop the ball’ on the ‘basic’ phone requirements.

#### Manufacture and Supply

Nokia has strong competencies in manufacturing and operates 9 major factories world-wide. (Source: Annual Results Nokia Corporation. 27 January 2011). In contrast Apple outsources all of its iPhone manufacturing to FoxConn in China. This has major benefits in freeing up Apple time for focus in other business areas, whilst enabling optimally low production costs. However its image has been hit on occasion due to reports of poor working conditions within Foxconn including worker suicides and deaths from industrial accidents (Source: Bloomberg Businessweek 7-6-2010). Nokia’s manufacturing competencies enable it to produce the high volumes and varieties it needs to satisfy its global market. It is questionable whether an outsourcing approach would provide it with enough savings in cost and management time to offset the risk of intellectual property leakage to the East.

#### NOTES

1. Slide, Candybar, Clamshell, Touchscreen Candybar, Touchscreen Monoblock, QWERTY Candybar, QWERTY Slider, Tablet.
2. DCT4, DCT4+, BB5.0, BB5.92, S60 3rd Edition FP2, S60 5th Edition, Series 40 6th Edition, Symbian 3, Symbian 3 ‘Anna’, Series 30, Maemo 5.

“A major difference between Nokia and Apple is the latter’s ability to create a media event (indeed a frenzy) from its new product launches.”

“Apple has been stunningly successful in applying an ‘Open Innovation’ approach to the development of software applications (‘Apps’) for its iPhone and iPad products.”

“Overall the Nokia N900 was technically very impressive — with functionality ahead of the Apple iPhone.”

Nokia—what went wrong? (continued)

### Marketing & Sales

A major difference between Nokia and Apple is the latter’s ability to create a media event (indeed a frenzy) from its new product launches, introduced personally by Steve Jobs. Apple flouts all of the conventional ‘laws’ of media management: It rarely talks to the press and it keeps its new product developments secret. This severe rationing of information keeps the press and users speculating, dreaming and desiring new products. The result is that Apple is able to demand and achieve high prices for its products from customers, the telecoms network providers (e.g. O2 and Vodafone) and from its software application developers. In contrast Nokia operates conventionally efficient marketing & sales that is firmly behind Apple in this key area of creating desire and demand for its products.

### Partnership Management

Apple has been stunningly successful in applying an ‘Open Innovation’ approach to the development of software applications (‘Apps’) for its iPhone and iPad products. It seized the opportunity provided by the immediate success of the iPhone when it was launched in 2007, to build a software marketplace, supplied by an army of independent software developers, but firmly controlled by Apple and distributed by iTunes. The App store was launched in July 2008. This was a fundamental building block in building its ‘ecosystem’ of product, accessories and software which were so compelling for potential Smartphone buyers. By April 2009—nine months after the App store was launched, 1 billion Apps had been downloaded. By January 2011, 10 billion Apps had been downloaded (Source: BBC 24-1-11). As of June 2011, there are more than 425,000 Apps on the store (Source: Apple). Whilst the App store is only calculated to contribute 1% of Apple’s profit (Source: CNET 23-6-2010), its purpose is to increase the value to potential iPhone/iTouch/iPad purchasers and to thus encourage them to select the Apple products ahead of rivals. In comparison Nokia’s ‘Ovi Store, launched in May 2009 is not in the same league for quality and quantity of applications. There were a reported 48,000 Apps on the Ovi store by May 2011, with 6 million Apps being downloaded per month—about 1/50th of the Apple download level. Google’s Android Market was launched in August 2008 and by May 2011 there are a reported 200,000 apps in its store (Source: Official Google Blog, 10-5-2011).



Figure 6: Nokia N900

### 3. What are the apparent weaknesses in Nokia’s innovation system?

The development of a new product can be considered as an innovation ‘journey’. To examine Nokia’s effectiveness at innovation, we will examine the case of their N900 Smartphone (Figure 6), launched in September 2009 as a major rival to the iPhone. We will explore this using our TUBE model (Figure 7), which considers the four key workstreams that need to be managed in new product development (Source: ‘The Innovation Journey for technology-rich product businesses’ February 2011, study by Codexx, Exeter University, Aalborg University, GJE).

### TECHNOLOGY

The Nokia N900 had a high resolution touch screen, good camera for stills and video, a second camera for video calling, built-in mp3 and video player with stereo speakers, Bluetooth, FM transmitter the ability to connect to an external TV or monitor, email and attachments viewer and a sophisticated internet browser. Data storage was 32gb with an additional 16gb storage addable via micro SD card. Wi-Fi and 3g connections were provided for internet access. GPS was also included together with Nokia’s OVI maps. Its Linux-based Maemo operating system was highly sophisticated with multi-tasking and Nokia had enabled access to its Linux core to allow developers and sophisticated users. Phone functions were also included. Overall the Nokia N900 was technically very impressive — with functionality ahead of the Apple iPhone. Pre-sale reviews by trade publications were very good.

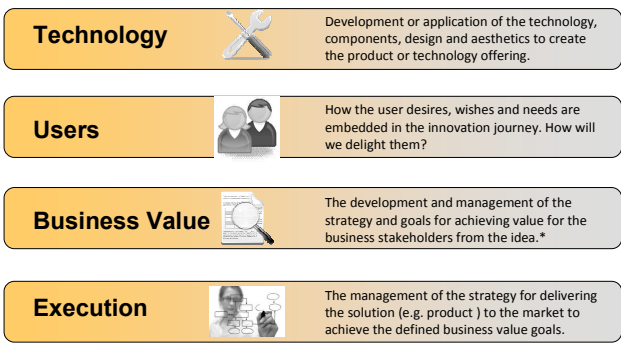


Figure 6: TUBE model for the Innovation Journey (Source: Codexx)

### USERS

However, it was clear from early on that the N900’s effective target market (whether deliberate or not) comprised sophisticated users, the so-called ‘Geeks’ who valued the technical capabilities of the phone and its open Linux-based operating system. “The N900 was aimed at early adopters and tech enthusiasts.” (Jussi Makinen, N900 Product Manager, 9/2009). In comparison, Apple’s iPhone targeted the larger market of non-technical users who valued ease of use above technical capabilities. They saw the N900 as thick, rather ‘brick-like’, more complex than the iPhone, with a slow interface at times. In addition, the N900 had limited Apps available—1500 apps compared to a reported 100,000 in Apple’s App Store (Source: Wired, 3/12/09). Reviews of the N900 confirmed its weaknesses—as well as its strengths, limiting its attractiveness and desirability to the mass market. “In a nutshell: “The Nokia N900 ... is more of an internet tablet than a phone. Its outstanding features are its QWERTY keyboard, hi-res touchscreen, web browser and multitasking ability. Downsides are poor user-friendliness, size, weight and the very high price.” (Source Mobile-phones-review, January 2010). “...its unintuitive interface and other limitations make this a smartphone for tech enthusiasts and early adopters only.” (Source: CNET.com, 11-12-2009).

*“Nokia came to the market with the N900 with a much poorer Apps supply through their Ovi store and very limited accessories in comparison with Apple.”*

*“Overall, Nokia’s N900 Smartphone is a story of unfulfilled technical promise, due to decisions made in user focus and a weak execution.”*

*“Nokia stock has dropped 75% since mid 2007, signalling the market’s view of Nokia’s long term competitive decline.”*

Nokia—what went wrong? (continued)

## BUSINESS VALUE

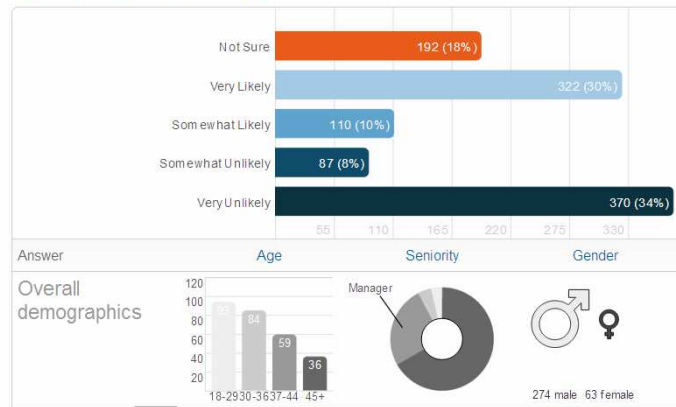
As already discussed, Apple has very successfully exploited the services ‘wrap around’ model - with software Apps and hardware accessories such as docking systems. This helps persuade potential buyers of the reason to buy an iPhone ahead of rival products. The law of increasing returns also applies for Developers as the market for their Apps is much bigger than if they developed it for the Nokia N900 Smartphone. Nokia came to the market with the N900 with a much poorer Apps supply through their Ovi store and very limited accessories in comparison with Apple. It was clear that to be competitive with the iPhone they needed to address this weakness. They had a potential advantage with the N900’s operating system based on the open Linux standard. This made it much easier for individuals and small developers to develop and bring new applications to market. However, Nokia’s poor history of App development with the Ovi store was not encouraging. There, a combination of limited marketing support and poor development processes - *“Developing for Symbian, could make you want to slice your wrists.”* (Source: Nokia employee, quotes in Businessweek 2-6-11) - limited the number of available Symbian Apps.

## EXECUTION

The N900’s excellent functional specification and enthusiastic early reviews in the technical press resulted in such a high level of initial demand when the phone was launched in November 2009, that it had to be delayed in some markets including the UK. However, early user feedback began to highlight usability issues with the phone—specifically ease of use and some lagging. In addition some functionality was poor or missing (such as video conferencing) only addressed after the third update or the operating system in October 2010—nearly 1 year after initial release. By then the damage had been done to the phone’s reputation. This was not helped when in May 2010, just over 6 months after shipments to the market began, Nokia announced that Maemo 5 would not be used for any future Nokia products. This effectively killed off any significant work by software developers in creating

If you are currently a Nokia user, will you remain a Nokia user when they switch operating systems to Windows 7?

1081 votes • 36 comments • Ended 15 Jun 2011



N900 applications, knowing that their application would not be used in any further Nokia phones. Late to market has been a problem for Nokia for a number of years. The company hadn’t delivered a single new Smartphone on time or without major software glitches since 2009, in part because of delays as scores of different hardware teams lobbied to get their pet capability—a new camera, say—built into Symbian (Source: Businessweek 2-6-11). Overall, Nokia’s N900 Smartphone is a story of unfulfilled technical promise, due to key decisions made in user focus and a weak overall execution.

Figure 9: Poll on Nokia + Windows (Source: LinkedIn June 2011)

## Where to find here for Nokia?

Doomsayers have been having a field day since Nokia’s watershed press conference of 11th February 2011. They point to the announcement of Symbian being terminated as a disastrous piece of marketing, threatening to put off potential Nokia handset consumers. They point to the decision to partner with Microsoft for the Nokia’s core operating system as turning off many traditional Nokia fans (See Figure 9 for some support to this view). They point to the 25% decline in Nokia share price since February as evidence that Nokia is badly damaged in the market’s eyes and it won’t be long before it is swallowed up by a bigger player. At this point the conspiracy theorists jump in to agree and cite the likely buyer as a young company (in comparison with 146 year old Nokia) based near Seattle, known as Microsoft. The fact that Nokia’s CEO, Stephen Elop, previously worked at Microsoft as Head of its Business Division, is the source of the conspiracy theories. Nokia stock had fallen 14% with Elop’s February announcement of the Microsoft partnership and overall it has fallen 38% from 31st December 2010 to 1st July 2011 (Source: Forbes.com). However, Stephen Elop only joined Nokia in September 2010 and Nokia stock had been falling before he joined—it has dropped 75% since mid 2007. (Source: Businessweek 2-6-11) - signalling the market’s view of Nokia’s long term competitive decline. Nokia’s Smartphone market share has fallen by half, to 25.5% in the first quarter (2011) from 50.8% in the second quarter of 2007, according to Gartner Inc. (Source: Bloomberg 1-6-11)

**So what will happen to Nokia?** We have no crystal ball, but propose three of the most likely scenarios to consider:

**Scenario 1 — High end niche:** Nokia develops a successful niche, primarily in the business market through handsets operating a combination of the Microsoft Windows operating system with Nokia value-adding enhancements. It withdraws from much of its low end high volume handset market and sells off some of this manufacturing capability. There would certainly seem to be room for Nokia to exploit its strong handset competencies and to get the best out of the Windows software, whilst enabling differentiation against other handset manufacturers operating Windows. The low end of Nokia’s market would be captured by low cost Chinese producers such as ZTE.

**Scenario 2 — Windows clone:** Nokia is commoditised by being simply a hardware provider for the Windows operating system and is unable to differentiate its offerings sufficiently due to Microsoft constraints. This results in continual market share loss and downsizing of the company. The end result is fragmentation as the business is sold off to both high end and low end rivals.



*“What can we learn from Nokia’s decline?”*

*“In the words of the ex Intel CEO, Andy Grove: ‘Only the paranoid survive.’”*

*“On 28th February we published the report on our study on the innovation journey for high technology businesses, working with The University of Exeter Business School, Aalborg University Denmark and Gill Jennings & Every LLP.”*

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Nokia—what went wrong? (continued)

**Scenario 3 – Core competency focus:** Nokia exits the handset production business to focus on telecoms infrastructure, R&D and high-end phone technology platforms, with revenue from licensing and technology development contracts. It has proven competencies in these areas. This results in major redundancies and plants closures but a long term future based on its Intellectual Property and design competencies.

### Lessons for business—what can we learn from Nokia’s decline?

**1. Get in the heads of your users.** Nokia were often technology-led rather than user focused in their product development. This led to added functionality - primarily valued by smaller niche users - reducing the ease of use of the handset. User focus is critical to successful business. This does not mean that companies must slavishly follow whatever the user of their products or services ask for. Often, users concept of improvement or innovation is focused on 'Do Better' rather than conceiving of the potential for 'Do Different' (a faster horse, rather than a car...) No, the goal of user focus is to gain empathy with the user in their experience of using existing products or services and to achieve insights that would enable significant improvements in that experience. The recent Codexx study of innovation in technology businesses found that the most successful innovators were those with the most user focus (Source: *The Innovation Journey for technology-rich product businesses* February 2011, study by Codexx, Exeter University, Aalborg University, GJE). **LESSON: Get in the heads of the users of your products or services. Ignore this at your peril.**

**2. Develop a complete value offering.** Insufficient focus and resourcing for the development of value - added services such as Apps. Nokia started late in developing its applications market Ovi, a year after Apple, this gave Apple an unassailable lead and created a market with high liquidity for both customers and software developers. It meant that there was much less incentive for software developers to make the effort to develop new or port existing applications for a different operating system such as Nokia's Symbian or Maemo, when the potential sales would be much lower than for a new product in the Apple App Store. If Nokia had started much earlier with Ovi for the long running Symbian operating system then they would have established a reasonably sized market already when Apple launched their iPhone. **LESSON: Providing a high value offering to customers requires an optimum combination of hardware, software and services provided by a business and its partners.**

**3. First impressions are key.** Release of key new products (such as the N900) with incomplete operating software functionality - only addressed when the product had been in the market for nearly a year. **LESSON: First impressions are key for short lifetime products.**

**4. Keep focused.** Nokia spread management focus and resources over a wide range of handset models and software types at both high and mid price points. This reduced their ability to respond effectively and quickly to external challenges. **LESSON: Business focus is key even for the largest companies.**

**5. Keep listening and keep humble.** Successful innovators have strong external links—to customers, to users, to partners and to competitors. They become quickly aware of both opportunities and threats. They are grounded and indeed humble enough to recognize that any competitive advantage they may have is likely to be transient. In the words of the ex Intel CEO, Andy Grove: *“Only the paranoid survive.”* Nokia appears to have become too inward looking and too complacent. **LESSON: Keep listening and avoid complacency.**

Note: To ensure transparency, we wish to state that the author, Alastair Ross, is a long term Nokia customer and N900 owner.

## News

### Recent client projects

We are pleased to announce that Codexx have successfully completed the first phase of a reengineering project for Mills & Reeve, a major UK law firm headquartered in Norwich, and recently completed a pilot project for Pinsent Masons, a major UK law firm headquartered in London. We also completed an organizational redesign project for a technical support function for a major international manufacturer and also performed a manufacturing benchmarking assessment for 3 factories for a major manufacturer based in Hungary.

### Codexx completes hi-tech innovation study

On 28th February we published the report on our study on the **innovation journey** for high technology businesses, working with The University of Exeter Business School, Aalborg University Denmark and Gill Jennings & Every LLP. In this study we examined the innovation practice and performance of 25 technology companies based in the UK and Denmark, to identify those practices that were key to effective innovation. We found that innovation leaders typically had strong user focus, preparation for market launch and Intellectual Property management. For more information, go to [www.codexx.com/new-stuff/](http://www.codexx.com/new-stuff/) or contact us for a free copy of the report.

### Smarter Working—effective reengineering for professional services firms

Over the last six years we have performed multiple reengineering projects for professional services firms—particularly law firms, who are experiencing increased business pressures from client price down pressure and regulatory change. To help improve the efficiency of the reengineering programme for these businesses, we have developed ‘Smarter Working’ - a tailored reengineering programme for professional service firms which focuses on their key improvement areas. For more information, contact Codexx.

### Connect to Codexx

We hope you have found **new directions:** to be stimulating. Any feedback is welcome. If you would like further information on any of the topics discussed in this edition, contact us at [www.codexx.com/contact-codexx.php](http://www.codexx.com/contact-codexx.php).