



IT and Small Business: An Unhappy Marriage

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INTRODUCTION

The use of information technology (IT) in small and medium enterprises (SMEs) is one of the spearheads of small business stimulation policies. The relative backlog in IT adoption that SMEs show, compared to larger companies, is considered one of the reasons for their slower development. With the IT industry shifting its focus to smaller and medium sized companies this situation could be changing, but will the typically reluctant small business entrepreneurs be convinced? The sharp fall of the e-business hype strengthens the skepticism about the value of IT. In 2002 the average IT spending in Dutch SMEs was below 0.5% of their revenues (Ravesloot et al., 2002). On average large companies spent between 1.8% (industry) and 9.3% (telecom) on IT (Wijbenga et al., 2003). How does this fact reflect on the productivity of SMEs? Does the lower IT investment rate in small business, compared to larger enterprises, correlate with a lower productivity?

This paper investigates the reasons for the slow adoption of IT by SMEs in the Netherlands and explores the consequences. Based on the experience of the Chair of Management Consulting of the University of Professional Education in Utrecht, some experiences will be reported on sharing knowledge on the use of IT with SME's.

Small Business issues with IT

Research in the Netherlands shows that, despite the lower investment rate, IT is no stranger to SMEs (Ravesloot et al., 2002). Of all small business organizations, 89% makes use of a computer, thereby accounting for 70% of all computers in the Netherlands. In this research SMEs are defined by the European definition, meaning companies with less than 250 employees. The use of IT applications in these companies however, is mostly limited to traditional supporting business functions as illustrated in table 1. IT seems not to be integrated into the business strategy. The exception to these observations is of course small business IT companies. For example e-business entrepreneurship was very popular in the late '90s.

The slow adaptation of IT in SMEs, compared to large enterprises is often mentioned as one of the prime issues in small business productivity. Research supports the opinion that productivity of SMEs develops slower than that of large companies. Table 2 shows that from 1997 until today the productivity increase (or decrease) of SMEs lags behind compared to that of large companies.

Table 1: The use of IT in SMEs. (Heliview in Ravesloot et al., 2002)

Business Function	Completely automated	Partly automated	Total
Financial administration	66%	14%	80%
Customer administration	63%	10%	73%
Order administration	49%	10%	59%
Sales / After Sales	45%	10%	55%
Personnel administration	33%	10%	43%
Procurement & purchasing	31%	14%	45%
Warehousing	25%	8%	33%
Production	18%	8%	26%

What is the reason that SMEs struggle with IT? Reasons for the slower adoption of IT by small business organizations are identified as (Ravesloot et al., 2002):

1. lack of knowledge;
2. lack of transparency;
3. lack of standards;
4. lack of business and IT alignment.

Lack of knowledge

It is typical for the entrepreneurs of small business organizations to play a crucial role in all decision-making. A study of the profile of these entrepreneurs learns that 57.4% is over 45 years of age (Blom, 2001). 69.3% Does not have a higher or university education and app. 70% say vision creation and policy making is not one of their qualities. It is quite likely that this personal profile reveals one of the main reasons why IT and small business have such a difficult relationship. These entrepreneurs are craftsmen, professionals in their trade and self-made managers. Considering the youth of IT, it is no surprise that 37% of the entrepreneurs mention lack of knowledge as an important bottleneck. This lack of knowledge covers both knowledge of IT and knowledge of the potential use of IT.

Lack of transparency

IT companies are known for using technical terms and jargon in describing their products. Quite often these descriptions cover the features of products and services instead of the use of it. This perception, combined with the complexity of especially software applications, does not help decision-making. For small business entrepreneurs the returns on their investment are quite often hard to grasp, making them vulnerable to emotions and 'hear-say'. The IT industry seems to have trouble overcoming this communication issue. It is therefore not surprising that IT sales do not lose the majority of their opportunities to competitors, but to a 'no decision' of the prospective customer.

Lack of standards

Another important reason for not realizing the full potential of IT in SMEs is the lack of standards. Because of the fact that the IT industry has been developing towards open technology standards this part of the issue is fading away. Standardization in data however is still an important issue. Consider for example differences in product codes, barcodes, etc. The potential savings from further standardization of data is estimated between 2% and 8% of total revenues¹.

Lack of business and IT alignment

Small business companies basically have the same needs as larger enterprises when it comes to IT. SMEs however lack the scale to employ

Table 2: Development of productivity. (EIM in Ravesloot et al., 2002)

	1997	1998	1999	2000	2001
Small and medium enterprises	2.00%	1.25%	0.50%	1.00%	-1.00%
Large enterprises	2.75%	1.75%	1.50%	2.75%	-0.75%

a full time IT specialist (Yamamoto Krammer, 2003). Therefore IT becomes an additional responsibility of a 'handyman' in the company who can work with PC's. Either alone or in consultation with a vendor or a colleague, the small business entrepreneur decides on an IT investment to solve a business problem. Typically the 'handyman' purchases some 'B-brands' hardware and the software vendor is asked to install his system and get it up-and-running. System management is usually done on a 'crises by crises' base. This crisis driven reactive policy is a long way from implementing a consistent IT strategy that supports the business strategy and provides more business value through better budget planning, continuity of support, better utilization of IT and increased productivity.

The combination of these reasons, combined with the horror stories about catastrophic IT implementations and the financial risk involved, makes SME entrepreneurs shy in investing.

THE OPPORTUNITY

Despite their shyness, the awareness is growing that in today's dynamic and high-speed economy, IT and knowledge are key production factors. The impact of IT on business is rapidly shifting from an efficiency enhancing production factor towards a source of business innovation. Starting as an advanced calculator improving *efficiency* of administrative processes, IT developed into an information tool enabling management to make more informed decisions. In this way, IT also improved the *effectiveness* of organizations. The developments of the last decade, in which the availability of data increased explosively and markets became more and more transparent, allow companies to develop new business models to create value and use new channels to interact with their customers. The role of IT in these developments is no longer that of an 'enabler' of business strategies, but also that of an 'innovator' of business strategies. By allowing new ways of communicating and creating value, IT *innovates* business. The decrease in communication costs that resulted from the use of IT also allows companies to change the allocation of resources more easily. This way IT also creates managerial *flexibility* in organizations. An example of this flexibility is the creation of a shared service for financial administration in low-wages countries.

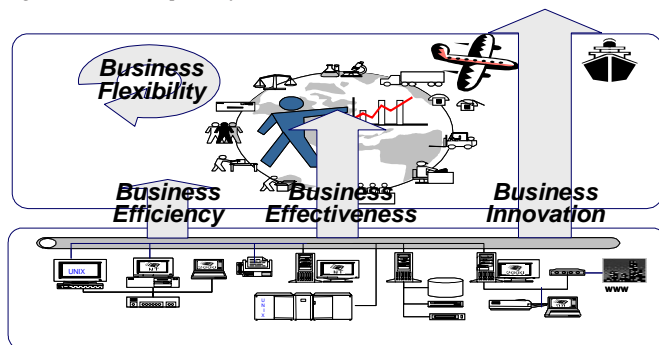
The effect of IT on organizations can be summarized as improving efficiency, effectiveness, innovation and/or flexibility (figure 1).

Since the IT industry shows a growing interest in the SME market segment, a number of trends can be identified that have particular relevance for small businesses.

Solutions are scaled to fit SMEs

As the IT market matures, software vendors understand that future growth will not come from their existing customers. Important ERP vendors like SAP and Oracle developed specific products and pricing policies for the SME market, assuming that is where growth is still possible. Coming from another background, but with the same goal is Microsoft. After creating an almost monopolistic situation in desktop operating systems, Microsoft worked its way up the value chain by aiming at server operating systems, databases and office software. Dominant market positions of products like WordPerfect and Lotus123 did not prevent Microsoft from reaching market shares of over 95%.

Figure 1: The impact of IT on business. (Silvius, 2002)



Now, Microsoft aims for the real business applications, starting in the SME market. The acquisition of European based Navision and US based Great Plains provides Microsoft with both the knowledge and the stepping-stones, to build success in these markets in years to be. Given the differences in European and US SMEs (Tramacere, 2003), the localized knowledge of Navision will prove to be crucial in the more fragmented European market.

Microsoft .net (incl. XML)

Connected to the development mentioned above is the technological development of .net. From a technology perspective .net is one of the few software platforms the IT world standardizes on. The technological features however will not be the most important. The vision behind .net is that everyone has continuous access to all information he or she is entitled to, regardless place and time. From a business perspective this could have an impact beyond imagination, if it grows to a mature world standard. The fact that Microsoft puts its weight behind it creates an expectation.

Mobile and wireless

Developments that are in full progress today are wireless and mobile access to internet and therefore information and interaction possibilities. The number of public 'hot-spots' is expected to triple in 2004. The rapidly decreasing cost of these technologies brings new possibilities for business process improvement into reach.

Penetration of IT in the home

As products become 'smarter', the use of IT within the home is increasing. This trend is not obvious because technology does not present itself as a computer but as a normal household appliance or as a car. Embedded technology is one of the growth areas in IT.

Another development related to the home is the trend to realize a corporate workstation in the homes of employees with VPN connection to the corporate information systems.

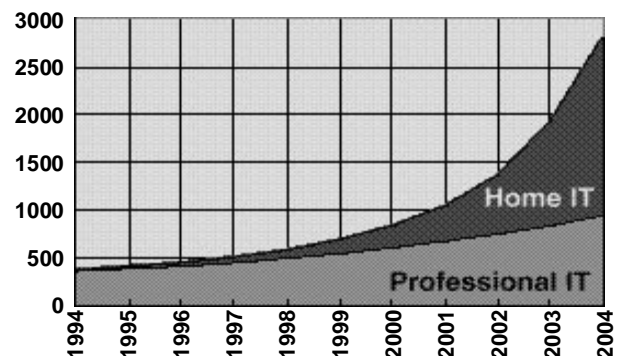
Broadband

The corporate 'home-offices' mentioned in the penetration of IT in the home is enabled and supported by the realization of broadband capacity in both rural and industrial areas. The business potential of this technology is probably only limited by our ability to think beyond existing applications.

Personalization

Another generic trend is the personalization of the offer to and the interaction with (potential) customers. The increasing availability of data allows for companies to tailor their offers to the specific needs of a specific customer. Since small business companies have a tradition of being more customer-oriented than large companies, they should use IT to elaborate on this quality.

Figure 2: Spending on IT for professional use and Home IT. Source: Strategy Partners



Business Process Outsourcing

Business Process Outsourcing (BPO) has taken hold of SMEs. Nearly 85% of small businesses and 73% of midsize businesses outsource, or plan to outsource, part of their business processes (Brown et al., 2003). Driven by a 'back to core business' focus will BPO provide SMEs with better technology, more efficient business processes and an improved ability to realize their goals.

OVERCOMING SHYNESS AND SKEPTICISM

As the most important bottleneck in adopting IT in SMEs the lack of knowledge was mentioned before. In the Netherlands several initiatives try to establish a knowledge transfer. These programs are partly successful. The fact that the Netherlands combines a highly educated population with relatively low knowledge transfer has become known as 'the Dutch paradox'. Universities can play an important role in the strengthening of this knowledge transfer. At the University of Professional Education Utrecht in the Netherlands a number of knowledge transfer programs is being developed to help small business organizations understand what IT can mean for their business. The first program, 'InnovIT', focuses on the innovation of services by using IT. In this program a total of five 'knowledge circles' is formed. Each circle consists of 10 service companies together with 2 IT companies that share ideas and experiences in workshops facilitated by the University. The goal of these workshops is to understand how certain IT applications can contribute to the market positioning of the companies, thereby innovating their service offerings. In each knowledge circle also 2 'showcase' projects are realized to enhance the experience. In this projects, students together with teachers, perform assignments in small business companies. The idea behind the student/teacher assignments is to use as much potential knowledge as possible. By performing these assignments, a direct knowledge transfer from the University to SME organizations involved is realized. Also the intention is to set-up an 'indirect' knowledge transfer by disclosing the results of the assignments in a 'knowledge bank'. This knowledge bank will eventually be accessible to all SME organizations.

For the university, the consulting assignments in the outside world provide a rich learning environment for students. Working with 'real-life' customers resembles a professional working environment in which professional skills and personal presentation are equally as important as knowledge. Of course, the assignments also require application of the students' academic knowledge in the context of the customer organization. Working together with an experienced teacher enhances the learning experience. Also teachers and students that were not directly involved in the assignments can learn from the experience by making case studies out of the assignments.

Based upon the experience of the program so far, the term 'knowledge transfer' proves to be misleading. The research-based academic world is quite a world apart from the daily 'hands-on' struggle of most SMEs. In the knowledge circles entrepreneurs learn from the experiences of other entrepreneurs. Recommendations are combined with visits to companies that already implemented similar solutions. 'Seeing is believing'! This way the 'message' is communicated in more ways than just a report.

CONCLUSION

This paper provides a number of actual insights in the development of IT in small business in the Netherlands. The overall conclusion is not very satisfying. Productivity development of small business companies is less than that of large companies, with slower adoption of IT as a probable cause. It is also concluded that the impact of IT can be seen not just in terms of productivity improvement. From an enabler of business IT developed into an innovator of business.

Small business companies usually lack the insights and overview to understand the opportunities that IT might provide for their business. At the same time, the IT industry is targeting SMEs as a growth segment, bringing technology within reach that used to be limited to large enterprises. *Where will these two meet?*

Despite these worries, there is also hope. Policymakers have identified the issue and create stimulation funds for IT in small business companies. Knowledge transfer is a key element in these programs, but knowledge transfer is difficult when consultants, college-professors and SME entrepreneurs seem to be living in different worlds. Knowledge transfer should therefore be developed into experience transfer, using successful entrepreneurs as role models to illustrate the use of IT.

NOTES

1. Based on experience of the Dutch EAN organization, EAN is a non-profit organization managing standards in bar codes.

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