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"Ich weiß zwar nicht, wohin ich will, aber dafür bin ich schneller dort." (Helmut Qualtinger)

1. Introduction

Does the early bird really catch the worm in the internet business? Or is he the one to die an untimely, early death? Is therefore, as the proverb suggests, being first-to-market the necessary precondition to become successful in internet-related business (Rangan/Adner 2001, p.44)? Or is the latter hypothesis true – meaning that it is better for a company to wait for first movers to make an investment and then to cannibalize the new product with lower entry costs?

Whichever might be the case, it is out of question that one of the most important drivers of success in the internet economy is time. e-business is characterized by a high dynamic of evolution, discontinuity and strong time-based-competition. This is why experts point out that one year of traditional business time corresponds to four years of internet time (Wirtz 2001, p.145).

This paper deals with the time-to-market in the internet economy. Past and current research on the topic, by and large, aims at market entry as the crucial starting point of a new product's implementation and commercial utilization. Time-to-market, however, goes beyond such an isolated discussion and employs a holistic approach. Also the starting point of innovation and the duration of the innovation process are important parts of the time-to-market concept presented here. Moreover, systematic research on timing has so far focused on traditional businesses. The aim of this paper is to look at the internet economy with the focus on timing strategies. After an introduction to the conceptual framework of time-to-market, this paper will discuss strategic implications of internet-based timing. Here it will focus chiefly on the beginning and the end of the innovation process. Chapter four, then, will exhibit the first results of an empirical study about European B2B-marketplaces with special respect to timing strategies. The paper concludes with an outlook on subject timing and some proposals for future research

2. Conceptual framework: Time-to-market

The concept of the first mover refers to the market entry of a company. The main question discussed in this context is: What are the advantages of being first to market? Yet, market entry is only one aspect concerning time-to-market. Seen in terms of a holistic framework, **time-to-market** concretely means the time from creating a product or service-idea, developing a product, up to the point where it is brought into the market. **Time-to-market management** deals with the complete time of the innovation process and that of the ensuing management activities. It can be put into action at the beginning, during or at the end of the process (see figure 1). The **starting point of innovation** is defined as the point in time when a company conceives of a new product idea and starts its product development activities. The finishing point of the process is that of the **market entry** – when the completely developed product is brought to market.



Figure 1: Conceptual framework of time-to-market

Other issues concentrate on the company's activities during the innovation process. Thus, if an enterprise is able to shorten the **duration of this process**, it is in a position to act as a first mover. Whether someone enters the market early or later does not exclusively depend on the development-time. It also depends on

how early someone starts. Therefore, the necessity of an explicit differentiation between the start of innovation and the market entry, as strategic relevant timing points in the process of innovation, becomes obvious (Buchholz 1996, pp.127).

3. Internet-based timing strategies

3.1 Strategies for the starting point of innovation (innovator vs. imitator)

3.1.1 General implications

Depending on the starting point of innovation, either a pioneer- or a followerstrategy can be pursued. The **innovator** is the first to initialize a process of innovation of a new technology, product or service. All companies to instigate these processes at a later point of time are to be called **imitators**. The innovator is in the position to gain an initial advantage. This enables him to enter the market first – considering that he has the same duration of the process as the imitator. Furthermore, regarding market entry, he has a broader window of opportunity due to the choice of entering the market either now or to a later point in time (Buchholz 1998, pp.22).

The innovator's position represents an advantage under the following conditions (Perillieux 1987, pp.177):

- synergies between the new and the actual offerings
- profound know-how considering the new solution
- a quick market-diffusion can be expected

The innovator is able to reduce his risk considerably through the use of potential synergies and his lead in know-how. Yet, the imitator has the opportunity to gather and analyze information and experiences of the pioneer. This learning-effect is the main advantage of a follower-position, especially when considering the starting point of innovation. But it can be difficult for him to attain the relevant information since only after the market entry product informations are available. If the imitator is able to gain information from innovator's experiences right at his starting point, he could realize a shorter time of product development and consequently become the first mover concerning the market entry.

The necessary requirements for a promising imitator-position are:

- high probability concerning a successful market introduction
- high expected market-growth
- small degree of innovation concerning the new offering

3.1.2 Start of innovation in e-business

What is the trigger of innovation activities in an e-business company? Literature distinguishes technology-push- and market-pull-approach. Technology-push sees technology and the R&D-activities of a company as the source of new ideas whereas the market-pull-approach makes out the market or the customers as innovation generators. In the early days of e-business almost no company had experience with internet applications. The roots of internet-technology lie in military and science networks. Therefore, one can say that the evolution of e-business was technology-driven. On the other hand companies were not pushing the technology but were pulled from market demand. This special combination of being technology-driven and demand-pulled at the same time could be described as **technology-pull-approach**.

For the success of new business-ventures it is of particular importance to answer the question: Do the customers really need our new internet-solution? Especially the dot.coms made the mistake to disregard a systematic scanning and monitoring of real business opportunities. Profound market know-how is the main advantage of the brick-and-mortar companies. They pick up the innovative ideas of the dot.coms and apply them to business opportunities only they know about. Furthermore they can use synergies between the original business and the new internet-based solution so that they are in an ideal position for a successful imitator strategy. To utilize the small competitive edge concerning time it is essential for the innovator to find an experienced partner who helps him to understand the rules of the business he wants to get in. A successful example of combining special competencies in internet technology and toy-business is the partnership between Amazon and Toys-R-Us. After joining their activities they were able to outstrip the innovator e-toys (Rickens 2001, pp.24). Companies which permanently create knowledge and/or who display accelerated innovation, are difficult to imitate. Rapid and continuous innovation in the e-commerce area has also been Amazon's characteristic. Examples are the one-click-technology, which enables a customer to place an internet-order with one mouse-click or the collaborative-filtering technology, which analyzes a customer's purchase and makes suggestions of other books (Wirtz 2001, pp.235). Ongoing innovation is one reason for the fact that Amazon permanently stays ahead of the competition. Some companies go even one step further. Their strategy is innovation leadership through the cannibalization of their own products. In the past Hewlett-Packard was very successful with that strategy in the printer industry (Wirtz 2001, pp.195).

3.2 Strategies for the market entry (first-, early- or late mover)

3.2.1 General implications

Also, in respect to the question of market entry, a company can either act as pioneer (first mover) or follower (early- or late mover). A considerable amount of empiric research has been conducted on the market entry discussion (Ansoff/Stewart 1967, pp.71; Maidique/Patch 1982, pp.273; Schnaars 1986, pp.27; Golder/Tellis, 1993. pp.158; Lee/Smith/Grimm/Schomburg 2000, pp.23; Bauer/Fischer/Pfahlert 2001, pp.632). A comparative analysis of different studies on timing strategies shows that an optimal point of time, in general, does not exist. For example, an actual study in consumer goods and industrial markets indicates that, in the long run, first movers are considerably less profitable than late entrants. The main reasons for this are higher costs, which tend to exceed the sales gains. Although in both consumer goods and industrial markets first movers gained significant sales advantages, they incurred even larger cost disadvantages (Boulding/Christen 2001, pp.20). Furthermore, the advantage of the respective strategies pursued strongly depends on the situation. Here, the used productiontechnology or the specific constellations of the industry have to be taken into consideration (Gerpott 1999, pp.201).

Up to the entry point of the early follower, the market-pioneer has the opportunity to explore wide parts of the market-potential. Beside these temporary benefits, the **first mover** can likewise profit from the following competitive advantages (Lieberman/Montgomery 1988, pp.41; Boulding/Christen 2001, p.20):

- cost advantages (e.g. experience-curve-effect, scarcity of inputs)
- better impression on customers (e.g. strong brand recognition)
- positive technology image and technology leadership
- established patents or industry standard
- broad range of possibilities in using marketing instruments

Especially when considering price-policy, the pioneer has a range of different opportunities. One strategy is that of a high entrance-price (**skimming-pricing**), since the consumer is willing to pay a premium for the innovative offering. **Penetration pricing**, on the other hand, would mean entering the market with low prices, which has a deterring impact on the followers and, thus, can be used as a barrier of entry. The erection of such barriers of entry is the most important task of the pioneer in order to protect his first mover advantages. While his prime objective should be the establishment of high barriers of entry, the followers are interested in low barriers. A first mover market entry therefore includes a number of risks, such as:

- high economic and technological uncertainty
- lack of experience with regard to the market situation
- high costs to open up the market
- "free-rider-effect" for the followers
- early obsolescence of taken investments
- market-entry with an unfinished solution

With the entry of the **early followers** some market rules have been established, but customers are still receptive for new products. Thereby the early mover can utilize potential first mover advantages and, at the same time, take advantage of the pioneer's experiences and investments. Other important advantages of an early mover are (Boulding/Christen 2001, p.20):

- learning from the predecessor's mistakes (reduced technology- and market-uncertainty)
- reduced investment requirements
- adoption of more efficient processes and technologies

- On the other hand, a number of potential dangers to this kind of follower have to be mentioned:
- the pioneer has already established his offering as industry standard

the early existence of high entry barriers the early mover has to overcome
There are, however, possibilities to overcome these entry barriers by, for instance,
the implementation of a low price strategy or the offering of value-added services
like guaranties or training. Is the follower able to establish his own technology standard, as, for example, through higher product-functionality, a superseding of
the pioneer's product could be the conseqence.

Late movers enter the market at the beginning of a growth-phase under minimal risk when a wide market and technological stability can be assumed. Here, possible advantages are:

- the highest degree of market and technological information availability
- orientation on the competition's behavior and identification of its weaknesses
- the highest possible participation in the pioneer's investments
- Simultaneously, late movers run the following risks:
- the biggest part of the market has already been exploited by first- and early movers
- high barriers of entry and established market-rules
- strong customer preferences for established companies

An interesting option for the later follower is a **niche-strategy**, where he does not have to go head-to-head with the earlier mover. This would be useful, since the follower already has knowledge about profitable market-segments which he can precisely work on and, thus, can overcome barriers of entry (Buchholz 1996, pp.170).

3.2.2 Market entry in e-business

McKinsey's extensive study of 80 B2B- and B2C-internet market entries has yielded the overall result that there are many factors affecting the success of a new company – and that it is extremely difficult to isolate the effect of the first move. Their main finding was that speed gave advantage to only 10% of the companies

analyzed, and that certain conditions must be met. If this was not the case, moving fast provided no advantage for a company (Bates et al. 2001, p.54). But what are the special requirements for a successful market entry as a pioneer in the internet economy?

The crucial point here is the **network effect**, which means that the value of a network increases with the square of the number of participants. A first mover can profit from this far more effectively in e-business than in traditional business. This effect can turn a slight lead in time into market dominance. With its immense opportunity to attract and lock-in unattached customers via network effect, a first mover is able to achieve the critical mass very quickly and trigger a winner-take-all-dynamic. The online-auction based market 'ebay' is an example for the successful use of such a first mover advantage. Before the marketing costs per user increased substantially, 'ebay' was able to attain a critical mass of users for its network. Network effects function notably well in the case of a self reinforcing network of customers or suppliers. Customers are interested in selling their goods on the site with the most buyers and buyers naturally prefer to shop on the site with the most sellers. Because 'ebay' was first, it hooked into this race and no competitors could catch up (Rickens 2001, p.25).

In e-business a first mover strategy is well advised if the company is able to erect lasting barriers to entry, which may help to lock customers in and keep competitors out. An important entry barrier in the internet business is a **valuable brand**. The pioneer can create brand awareness that raises customer loyality (lock-in effect) – even though switching costs for the consumers are relatively low. Good examples for this phenomenon are 'Amazon' or 'Yahoo'. 'Amazon.com' is one of the few internet brands recognized worldwide. Here, the first mover becomes associated with the business that he is in – everybody is familiar with the brand name. Furthermore, the brand name is the only resource that can not be imitated or copied by competitors (Mellahi/Johnson 2001)

Opening up **key resources** or the forging of a privileged relationship with a key resource owner, likewise, are important in e-business. For instance, 'ebay' acts as an orchestrator in a network of partner companies which offer complementary services as internet-access, sales or exchange of goods (Häcki/Lighton 2001, p.32). Finally, if the pioneer has the possibility to set the terms of business, or if he

is even in the position to set the industry standard, these eminent first mover advantages in e-business become evident (e.g. Intel and Microsoft) (Rangan/Adner 2001, p.44).

On the other hand, barriers of entry nowadays are tumbling in the internet economy – especially in the form of technological and financial hurdles. **Technology** more and more becomes a commodity, offers no possibility for differentiation and, thus, is no longer a relevant barrier of entry (e.g. easy download of online-shopping software). The same holds true for **financial barriers**. It is far easier for a company to obtain new customers in new markets. Place is nearly an irrelevant factor in the marketing mix and it is difficult to keep customers from moving to a competitor's site. Lower barriers of entry consequently offer ample opportunities for newcomers, but also higher competitors like sharks are drawn to blood – at least in the glory days of e-business.

There are also negative examples of unsuccessful first movers. 'AltaVista', the pioneer in the market for internet search engines, had a dominant status five years ago. Today, they are merely one among many. Another example is 'Pet.com', fist mover in online pet supplies. In 1999, more than half a dozen companies were operating portals for pet-related products, service and information. Today it is has become obvious that not even one of these companies could have been successful (Odlyzko 2001).

There is no guarantee that the benefits of user adoption and customer lock-in will automatically be enjoyed by the first-mover (Rangan/Adner 2001, pp.45). Network effects not necessarily apply to individual companies, e.g. e-mail. For the early follower, there are tremendous opportunities of **differentiation**. For example, it is possible for him to offer value-added services. The original offer can gain an upgrading and, hence, it can become more attractive in the eyes of the customer. Attacking the first mover on price is also an option in e-business (Rigdon 2000). The follower can give away services and products for free which the first mover company was still charging money for (**price differentiation**). For example, e-mail providers like Hotmail were attacking the pioneer AOL with service offerings for

free. Even more successful is a differentiation strategy via product. In the example mentioned above, thus, AOL struck back by offering additional features.

The larger the pioneer's market share, the more vulnerable he tends to be. Netscape, for instance, dominated almost the whole web browser market. Then Microsoft launched its 'explorer' for free. Netscape, as first mover in the field, lost against the follower Microsoft. Although Netscape possessed a first mover advantage, Microsoft won the head-to-head competition because of price, brand name, size and operating systems (Mannes 1999). Especially if the early follower has a strong off-line brand he is in a promising position. Even though the follower's technical solution is not as good as the pioneer's, he nevertheless has a chance to win. Thus, it could be argued, great marketing and average technology always beats average marketing and great technology. Although AMD has a better product with the Athlon-chip, it was surpassed by Intel's inferior product using brand and marketing power (Rigdon 2000).

First mover advantages are far more relevant for the B2C-e-business, whereas in the B2B-sector the follower strategy offers more opportunities. There are a number of examples and arguments in favour of a wait-and-see-strategy. A case in point in the B2B-sector are the brick-and-mortar companies riding the third B2B-wave. This is why the importance of first-mover-advantages in B2B-internet-business and the durability of their advantages should not be overrated. The following factors have to be considered: Switching costs are a more important factor in B2B-ebusiness. Therefore customers take a closer look at the solutions offered. For example, customers don't switch when it involves large set-up costs or a complex implementation process (e.g. lock-in by B2B application providers). In such a case, being best is far more important than being first (see examples as FreeMarkets or SAP) (Rangan/Adner 2001, p.45). Benjamin, here, talks about 'first prover' instead of 'first mover' advantages (Benjamin 2002). Because of the extremely high dynamic in ebusiness, a first mover has no time to study the market comprehensively, and, thus, has to rely on incomplete information. This may lead to a fatal misjudgement of the business model and the market structure. Since he had to enter the market before being able to survey the competitive landscape, he often has to introduce products that are not fully developed and do not function properly (Bates et al. 2001 p.54). Early followers have the chance to offer a more reliable and sophisticated version. There is a huge difference between network effects in B2C and in B2B-e-business. In B2C, it holds true that the greater the numbers of users on supply- and demand-side (quantity of **network**) the greater the benefit of the partners is likely to be. Contrary to early beliefs in B2B it is rather the close and trusted relation between network-partners that is the critical success factor (quality of network). Problems of integration, aspects of security and high infrastructure costs to be paid by the participants are reasons for their "wait-and-see-attitude". Since the B2B-solutions demand subtle and comprehensive preparation a market entry as follower is more likely. An example for such a strategy are procurement services. The mainly technologydriven first movers were offering e-procurement-solutions to standardize procurement processes. The followers are using more extensive solutions by offering supply chain integration for direct material or strategic sourcing know-how (e.g. Procurement Service Providers like ICGCommerce) (Buchholz/Bach 2000, pp.15). Another argument to pursue a follower strategy in B2B is the e-business readiness of customers and suppliers. It doesn't make any sense to implement a high sophisticated solution if the partners do not meet the necessary preconditions (Barua/Konana/Whinston/Yin 2001, p.43).

4. Empirical study on European B2B marketplaces: First results

A survey among B2B-marketplaces active in Europe end of October 2001 was carried out in order to gain insight in their business model, their source of competitive advantage and their timing strategies. A questionnaire was sent out via e-mail to 580 marketplaces in November 2001. 79 responses arrived within the given time limit and are the basis for this empirical research. The data is analyzed using descriptive statistics for both presents status and planned activities for 2002. First results concerning the timing aspect are presented in this abstract. To take a simple look at the frequencies of the timing strategies 72% of the

marketplaces regard themselves as innovators concerning the starting point of innovation (28% imitators) and 81% think of themselves as first movers concerning

the market entry (19% followers). Very interesting results arise from the comparison between dot.com start-ups and brick-and-mortar-companies. At the starting point of innovation 85% of the start-ups are innovators vs. 65% of the brick-and-mortars. The picture changes remarkable by looking at the market entry. Here the same amount of the start-ups (85%) is acting as a first mover, whereas now 94% of the brick-and-mortars are in a pioneer position. This is an approval for the hypothesis that the brick-and-mortar companies are able to realize an outstrip strategy and leave the innovator behind. One question in the study deals with the orientation of the marketplace – buy-side, sell-side or neutral solution. On the one hand neutral and sell-side solutions have the same proportion pioneer vs. follower concerning start of innovation and market entry – roughly 80:20. This picture changes analyzing the buy-side solutions. Almost 50 % of the respondents pursue an imitator strategy regarding the starting point of innovation but only one third is in the follower position when entering the market (see figures 2 and 3).

			Ausrichtung			
			Buy-Side	Neutral	Sell-Side	Gesamt
Entwicklungstiming	E-Pionier	Anzahl	11	23	17	51
		% von Entwicklungstiming	21,6%	45,1%	33,3%	100,0%
		% von Ausrichtung	52,4%	74,2%	85,0%	70,8%
		% der Gesamtzahl	15,3%	31,9%	23,6%	70,8%
	E-Follower	Anzahl	10	8	3	21
		% von Entwicklungstiming	47,6%	38,1%	14,3%	100,0%
		% von Ausrichtung	47,6%	25,8%	15,0%	29,2%
		% der Gesamtzahl	13,9%	11,1%	4,2%	29,2%
Gesamt		Anzahl	21	31	20	72
		% von Entwicklungstiming	29,2%	43,1%	27,8%	100,0%
		% von Ausrichtung	100,0%	100,0%	100,0%	100,0%
		% der Gesamtzahl	29,2%	43,1%	27,8%	100,0%

Entwicklungstiming '	⁴ Ausrichtung	Kreuztabelle
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Figure 2: Start of innovation vs. orientation of the B2B-marketplace

			Ausrichtung			
			Buy-Side	Neutral	Sell-Side	Gesamt
Markteintrittstiming	M-Pionier	Anzahl	15	24	18	57
		% von Markteintrittstiming	26,3%	42,1%	31,6%	100,0%
		% von Ausrichtung	71,4%	80,0%	90,0%	80,3%
		% der Gesamtzahl	21,1%	33,8%	25,4%	80,3%
	M-Follower	Anzahl	6	6	2	14
		% von Markteintrittstiming	42,9%	42,9%	14,3%	100,0%
		% von Ausrichtung	28,6%	20,0%	10,0%	19,7%
		% der Gesamtzahl	8,5%	8,5%	2,8%	19,7%
Gesamt		Anzahl	21	30	20	71
		% von Markteintrittstiming	29,6%	42,3%	28,2%	100,0%
		% von Ausrichtung	100,0%	100,0%	100,0%	100,0%
		% der Gesamtzahl	29,6%	42,3%	28,2%	100,0%

Figure 3: Market entry vs. orientation of the B2B-marketplace

This reinforces the findings mentioned above because a buy-side-solution is mainly implemented by traditional companies. The comparison between public and private marketplaces also offers interesting insights. The public solutions are more frequently found in the pioneer position (starting point: 77%; market entry: 88%), whereas the private marketplaces are less frequent first movers (starting point: 63%; market entry: 68%) (see figures 4 and 5).

Entwicklungstiming * Zugang Kreuztabelle

			Zugang		
			Offen	Geschlossen	Gesamt
Entwicklungstiming	E-Pionier	Anzahl	34	17	51
		% von Entwicklungstiming	66,7%	33,3%	100,0%
		% von Zugang	77,3%	63,0%	71,8%
		% der Gesamtzahl	47,9%	23,9%	71,8%
	E-Follower	Anzahl	10	10	20
		% von Entwicklungstiming	50,0%	50,0%	100,0%
		% von Zugang	22,7%	37,0%	28,2%
		% der Gesamtzahl	14,1%	14,1%	28,2%
Gesamt		Anzahl	44	27	71
		% von Entwicklungstiming	62,0%	38,0%	100,0%
		% von Zugang	100,0%	100,0%	100,0%
		% der Gesamtzahl	62,0%	38,0%	100,0%

Figure 4: Start of innovation vs. access to the B2B-marketplace

			Zugang		
			Offen	Geschlossen	Gesamt
Markteintrittstiming	M-Pionier	Anzahl	37	19	56
		% von Markteintrittstiming	66,1%	33,9%	100,0%
		% von Zugang	88,1%	67,9%	80,0%
		% der Gesamtzahl	52,9%	27,1%	80,0%
	M-Follower	Anzahl	5	9	14
		% von Markteintrittstiming	35,7%	64,3%	100,0%
		% von Zugang	11,9%	32,1%	20,0%
		% der Gesamtzahl	7,1%	12,9%	20,0%
Gesamt		Anzahl	42	28	70
		% von Markteintrittstiming	60,0%	40,0%	100,0%
		% von Zugang	100,0%	100,0%	100,0%
		% der Gesamtzahl	60,0%	40,0%	100,0%

Figure 5: Market entry vs. access to the B2B-marketplace

For the private solution the tight-knit connection and integration is so crucial that they prefer a temporising position. A methodologically sound analysis of the data will be carried out in the future.

5. Prospects and future research

Researching timing strategies in the internet economy in general leads to the same results as in traditional businesses. The position of a pioneer is not per se better than the one of a follower. This is true for the starting point of innovation as well as for market entry. Also it is true that first mover advantages have a higher relevance in B2C-e-business than in B2B. In B2B a "wait-and-see-strategy" is a promising practice. Empirical data shows that especially in e-business not everyone who claims to be a first mover really is one. Needle (Needle 2000) talks about a great number of at best "Johnny-come-lately, me-too, wannabees" in the internet economy. Another important insight is that internet companies do not necessarily need to be a first mover to succeed. Especially in the long run more important is a unique and effective business model (Buchholz/Bach 2001). Often success goes to the first company to execute its business model well.

Another important aspect concerning time-to-market is the duration of the innovation process. The conceptual framework of this paper specifies the problem

yet the topic is not discussed in detail. This yields significant material for future research activities especially in B2B-e-business.

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