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How Well-Established Firms Prepare for the New Economy

An Empirical Study of the Development of New Economy Initiatives

Abstract: *In this study we investigated 30 ventures in four large firms. We categorized four projects as characterized by "new economy" principles. These were projects that focused on increasing returns. We compared these four projects to four "traditional economy" initiatives in terms of their trajectories and characteristics. We found that the "new economy" initiatives involved more cooperation across firm boundaries, required flexible organizational forms of venturing, used more pilot projects, and involved top management as a crucial element in their success.*

Incubating ideas and supporting initiatives have always been part of the repertoire of well-established firms for dealing with changing environments. However, ubiquitous technological changes have recently ushered in the need to manage certain initiatives in a fundamentally different way than in the past. These initiatives relate to segments of the environment that apparently follow a new and different set of rules—the rules of the so-called new economy (Arthur, 1994, 1996). The new economy concept is closely related to the revolution that is taking place in the

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information and communication technology sectors (Weber, 1993). An important characteristic ascribed to the "new economy" is the phenomenon of continuously increasing returns (Arthur, 1994, 1996), meaning that the returns to scale do not diminish at any point. This is in contrast to the rules applicable to "traditional economy" industries, where returns to scale would invariably increase, but at a decreasing rate, up to the point where they would start decreasing.

New entrants, such as Napster and Ebay, have been quick to capitalize on the emergence of this new economy (Rayport and Sviokla, 1995) by launching completely new concepts such as the online swapping of audio files and online auctioning, in contrast to the incumbents whose success is based on their dealings with the traditional economy. The new economy thus poses a challenge to well-established firms such as Bertelsmann and Sotheby. Faced with this changing if turbulent environment, one can expect incumbents to launch initiatives that cater to the new economy.

In order to understand how large brick-and-mortar firms manage such new economy initiatives differently from those aimed at the traditional economy, we integrate two research streams. Research on corporate entrepreneurship (e.g., Bower, 1970; Burgelman, 1983; Birkenshaw, 1997; Peters and Waterman, 1982) investigates trajectories of initiatives in large firms, but has not considered the impact of the new economy on the process. Research on the new economy has considered the setting up and organization of ventures (e.g., Arthur, 1994, 1996; Rayport and Sviokla, 1995), but has failed to investigate these in large-firm settings.

We bridge this gap by first proposing that the existence of the new and traditional economies implies a difference between new economy and traditional economy initiatives. Such variety poses a management problem for large firms. Assuming the difference to be the case, we speculate on the implications for the trajectories, and hence the management, of both types of initiatives. The propositions put forward are then tested against four new economy and four traditional economy initiatives in four large Dutch firms.

New versus traditional economy

Although the new economy has not changed basic economic relationships, it is said to differ from the traditional economy in the parameters or values underlying such relationships (Tyson, 1999). The rise of a virtual market space, namely the Internet, next to the physical marketplace has been considered the cause of this shift in parameters (Rayport and Sviokla, 1994, 1995).

The shift concerns the increased importance of the role of continuously increasing returns (Arthur, 1994, 1996; Shapiro and Varian, 1999), which in turn is related to an increase in the prominence of positive feedback and network externalities. Positive feedback is thought to operate as "reinforc[ing] that which gains success or aggravat[ing] that which suffers loss" (Arthur, 1996, p. 100). "Network externalities" (Katz and Shapiro, 1985) are "the utility that a consumer derives

from a product [which] depends on the number of other users that are in the same product network" (Brynjolfsson and Kemerer, 1996). Although both upsurges have been tied to the surge in Internet-related activities, they operate outside of the Internet as well. The victory of VHS over the Betamax video system demonstrates these mechanisms (Arthur, 1994)—that is, the more people started using VHS, the more attractive it became for potential customers; while the fewer the people that used Betamax, the less attractive it became.

This is quite different from the traditional economy where such network externalities and positive feedback have been considered much less prominent. Instead, returns are considered to diminish because of negative feedbacks as a result of competition. This leads to an equilibrium that represents "the most efficient use and allocation of resources" (Arthur, 1994, p. 1). In order to maintain an appropriate level of returns under such conditions, firms are forced to improve their efficiency because competition keeps lowering margins, and the downward spiral is set in motion.

New economy versus traditional economy initiatives

If the new economy adheres to different rules than those of the traditional economy, then it is likely that initiatives targeted at the former will differ from those targeted at the latter. This reasoning is in line with Sahlman (1999, p. 101) who talked of "new economy companies," and with Gulati and Garino (2000, p. 107) who referred to "internet initiatives." Because "it is a mistake to think that what works in one world is appropriate for the other" (Arthur, 1996), it follows that new and traditional economy initiatives will display differences in their trajectories and characteristics. Although initiatives have also been categorized as process and product (Abernathy and Utterback, 1975), as radical, incremental, and architectural (Henderson and Clark, 1990), or as autonomous and induced (Burgelman, 1983), the new and traditional economy initiative categorization represents a new distinction in the corporate entrepreneurship literature.

In the traditional economy, efforts are aimed at minimizing costs (Teece, 1998) by improving efficiency and routines (Nelson and Winter, 1982) in order to appropriate as much of the diminishing returns as possible. Because these efforts were ineffective in halting diminishing returns, new initiatives—which we define as new products, services, markets, or competencies developed in a firm that have considerable impact on its strategic direction—were necessary to provide for fresh sources of returns (Burgelman, 1983). It was evident that such exploratory activity (see March, 1991) came at a cost to efficiency because teams with high coordination costs needed to be set up, organizational slack needed to be available, and failures were necessary. However, even the development of new initiatives had to occur as efficiently as possible, with the return on investment being a crucial selection criterion, because they too were considered to be subject to diminishing returns sooner or later. In the traditional economy the creation of new activities is

thus considered a necessary but subsidiary project alongside the firm's main activities aimed at exploitation of old activities.

In the new economy, efforts aim at maximizing the birth chances of a virtuous spiral of increasing returns on the demand side for which initiatives function as the seeds on the supply side. Instead of responding to diminishing returns, these initiatives proactively seek to instigate increasing returns. No longer is the focus solely on efficiency but also on effectiveness. The general idea is that initiation, development, and implementation should occur as effectively as possible in order to maximize the onset of increasing returns. Because the success of an initiative is uncertain, multiple initiatives are launched with the explicit recognition that many might fail but that the successful ones will generate such increasing returns that they offset the costs of failure (McGrath, 1995). The crucial criterion for these new economy initiatives is no longer their return on investment but rather their chance of spiraling into a virtuous cycle.

The capacity of large firms for dealing with different types of initiatives

If a new and a traditional economy exists, and if this implies, as we suggest, that new economy and traditional economy initiatives also exist, then many large firms will be confronted with the challenge of dealing with both types of initiatives as they operate in both economies.

On the one hand, well-established firms are considered particularly suited for the new economy. First, as opposed to new entrants, these firms already possess complementary assets (Teece, 1986; Tripsas, 1997) such as specialized manufacturing capability or service networks that serve as necessary ingredients for the development and implementation of new economy initiatives. Second, owing to their size and existing markets, they can steer the formation of an industry standard much better than new entrants, which puts them in a better position to reap profits from network externalities. Large firms are also "likely to be in a better position to package . . . products as well as information about products and services in a manner that makes it difficult for consumers to assess their value for comparative purposes" (Grover and Ramanlal, 1999, p. 479). This practice increases switching costs for consumers and effectively locks them in. Moreover, large, well-established firms are better known than new entrants and therefore benefit from a higher level of trust (inferred from Steinfeld, Mahler, and Bauer, 1999) that makes them the preferred supplier in a new economy setting. Large firms, therefore, should be in a better position to gain when their new economy initiatives turn successful.

On the other hand, there are various reasons why well-established firms should find it difficult to make the transition to the new economy. These stem from their strength in dealing with the traditional economy. They have become so efficient at the latter that methods for dealing with traditional economy initiatives are embedded in their routines and logics. However, when it comes to new economy initiatives, these routines and logics turn out to be competence traps (Levitt and March,

1988; Levinthal and March, 1993) and core rigidities (Leonard-Barton, 1992; Barnett et al., 1994). In terms of content, the incumbent firm does not have the appropriate knowledge to understand and deal with new economy activities. In terms of process, it is unaccustomed and unable to deal with projects that involve high uncertainty and risk. Because of their historical luggage, large firms therefore have more trouble than startups in pursuing new economy initiatives.

At this point it is appropriate to focus on a seeming parallel between new economy and "radical" initiatives (Day, 1994) and, correspondingly, between traditional economy and incremental initiatives. The parallel seems applicable because for many well-established firms new economy initiatives are indeed quite a radical departure from the way they normally conduct business—as can be inferred from the previous section on core rigidities. Hansen et al. (2000) therefore mention "more risky opportunities"; and Christensen and Overdorf (2000) refer to "disruptive innovation." However, we want to stress that the parallel is merely suggestive, because new economy initiatives may very well be incremental in nature. At the same time, traditional economy initiatives may very well be radical in nature. Hence, although the parallel seems apparent, the relationship is certainly not one-on-one but merely stresses that new economy initiatives tend to represent different and unfamiliar activities for well-established firms.

Large, well-established firms must not only manage the differences between the traditional and new economy initiatives, they must also free themselves from an overly rigid commitment to developing in the traditional economy way. From the perspective of large firms, understanding the differences in the management of new economy and traditional economy initiatives is therefore necessary to manage the mix in both arenas. In order to do so, we turn to the trajectories of both types.

Initiative trajectories and characteristics

If a distinction exists between new economy and traditional economy initiatives, we should expect to find differences in their trajectories and characteristics. Based on the corporate entrepreneurship literature (e.g., Burgelman, 1983; Bartlett and Ghoshal, 1993), we speculate that differences can be found in the organizational form, in the extent of the separation, in the role of top management, and in the interaction across managerial levels. Based on the new economy literature (e.g., Teece, 1998), we also expect to find differences in characteristics that have been ascribed to the new economy in general, but that as yet have not been empirically verified: (1) uncertainty; (2) large up-front investments; and (3) blurred boundaries (Teece, 1998). We now turn to these differences.

Organizational form

Organizational forms—which we define as not only including the anatomy of structure, but also the physiology of processes and the psychology of culture (Bartlett

and Ghoshal, 1989)—have been related to levels of innovativeness (e.g., Burns and Stalker, 1961; Miles and Snow, 1986; Volberda, 1996). We speculate that new economy initiatives posses higher levels of innovativeness than those of the traditional economy because their activities are newer with respect to a firm's existing range of activities. Consequently, it follows that the former should possess organizational forms that are better suited to innovative activity.

In order to categorize organizational forms according to their ability to innovate, one could turn to Stevenson and Gumpert's typology (1985), administrative versus entrepreneurial, but it represents too much of an opposition of extremes. Volberda's categorization (1996, 1998) of four ideal types offers more variety: the rigid, planned, flexible, and chaotic forms. The *rigid form* has a routine technology, a mechanistic structure, and a conservative culture, and represents the form least suited for innovative activities. The *planned form* employs a more comprehensive repertoire of capabilities and has a less routine technology, a relatively mechanistic structure, and a conservative culture. The *flexible form* possesses a nonroutine technology, an organic structure, and an innovative culture. The *chaotic form* displays a very extensive flexibility mix, but is totally uncontrollable: the innumerable initiatives for change are therefore impossible to implement.

Of the four forms, the flexible and chaotic forms are better suited for innovation and are thus more appropriate for new economy initiatives. On the other hand, the rigid and planned forms are better suited for less innovative activities and are thus more appropriate for traditional economy initiatives. This leads to the following proposition:

> ***Proposition 1.*** *New economy initiatives tend to be associated with flexible and chaotic organizational forms, and traditional economy initiatives with planned and rigid forms.*

Extent of separation from ongoing activities

In dealing with the traditional economy, well-established firms have perfected their routines and dominant logic (Bettis and Prahalad, 1995). The routines have become so strongly embedded in the firm that they become a competence trap (Levitt and March, 1988; Levinthal and March, 1993) or a core rigidity (Leonard-Barton, 1992; Barnett et al., 1994) when a new situation requires a different set of routines and logic. This is the case with new economy initiatives, which require a different set of routines (Nelson and Winter, 1982) and a new mode of thinking.

The only way to limit the impact of firm's deadly traditional economy thinking is to separate the new economy projects from existing activities. This is supported by a study by Burgelman (1983), who found that for autonomous initiatives, which also conflict with existing firm thinking and routines, a similar separation mechanism occurred. This separation is also supported by Hansen et al. (2000), who discussed the use of this mechanism by corporate incubators when setting up new

groups. Because new economy initiatives require different logics and routines to a larger extent than do traditional economy ones, they will accordingly be separated to a larger extent so that:

> ***Proposition 2.*** *New economy initiatives will be separated from ongoing activities to a much greater extent than in the case of traditional economy initiatives.*

Role of top management

Top management takes on a much more significant and active role in the case of new economy initiatives, which often involve large up-front investments, cross firm boundaries, and have crucial timing (Teece, 1998). All of these aspects cannot be dealt with by lower parts of the hierarchy, as they demand power to sidestep all sorts of hierarchical procedures. This is supported by a study of Day (1994), who found that the early involvement of top management is crucial to the success of initiatives that are expensive, visible, and represent new strategic directions or resource configurations. She found that the involvement of top management at the early stage is necessary because "for ventures that require substantial resources during development, remaining invisible until they can demonstrate success is largely impossible" (Day, 1994, p. 169). This implies that new economy initiatives, which require large up-front investments, will need top management involvement at an even earlier stage than is the case with those in the traditional economy, so that:

> ***Proposition 3.*** *New economy initiatives require the involvement of top management at a much earlier stage than do traditional economy initiatives.*

Interaction across managerial levels

The initiative process has generally been regarded as one-directional. Either the initiatives flow from the top down, with top management taking care of exploration while the front-line handled the implementation (Chandler, 1962; Schumpeter, 1934; Selznick, 1957), or they flow from the bottom up (Bartlett and Ghoshal, 1993; Bower, 1970; Burgelman, 1983; Kanter, 1988) with the front-line taking care of exploration and the top functioning as the retroactive legitimizer (Burgelman, 1983) or the creator of purpose (Bartlett and Ghoshal, 1993).

The above paths of initiative trajectories in the traditional economy are very typically processes that occur in a one-directional manner because an initiative's requirements can be fulfilled by the hierarchy. New economy initiatives, on the other hand, have needs that cannot be fulfilled by the hierarchy in the above-mentioned fashion. These initiatives are based on competencies that require crossing hierarchical boundaries, they need organizational forms that do not fit into the strict hierarchy, and they demand large funding that is not provided for by the hier-

archy. They will therefore not display this typically hierarchy-related, top-down or bottom-up, one-directional path. Rather, they can be expected to display paths that cut across hierarchical levels and departments in a much more interactive manner than was the case in the traditional economy. This leads to our fourth proposition:

> ***Proposition 4.*** *New economy initiatives tend to display cross-level interaction behavior to a much larger extent than those of the traditional economy.*

Uncertainty

It is extremely hard to predict in advance whether new economy initiatives will spiral into vicious or virtuous cycles. These initiatives are thus highly uncertain in the sense that they offer risky returns (Lubatkin and Chatterjee, 1994). Although traditional economy initiatives can also display uncertainty, there is much less risk involved because positive feedback is absent. Their uncertainty is thus attributed to the rate at which returns will diminish—in other words, to estimates of the return on investment rather than to whether there will be any returns at all.

This uncertainty influences the organization of initiatives, as is evident from McGrath's (1999, p. 13) discussion of initiatives as "real options whose value is fundamentally influenced by uncertainty." McGrath's idea is that because of the high uncertainty, initiatives should be viewed as opportunities to continue investment. This means that "investments are staged . . . and losses can be contained" (ibid., p. 16), which means that initiatives with high uncertainty are split up in phases with sequential rounds of funding.

Because new economy projects involve riskier returns than traditional economy initiatives, they are more uncertain and are therefore more prone to be split up in phases and to undergo sequential rounds of financing. These suppositions, which are based on the corporate entrepreneurship literature, are in line with the literature on venture capitalists, who are known to organize sequential rounds of financing for certain milestones—often being pilot projects for proving feasibility (Fast, 1981). Thus we arrive at:

> ***Proposition 5.*** *New economy initiatives will be split up in phases and funded sequentially to a much larger extent than traditional ones.*

Huge up-front costs

A major difference between traditional and new economy initiatives lies in the huge up-front costs (Teece, 1998). The resource requirements of new economy initiatives are in general more substantial than investments required in the traditional economy because the birth of a new customer network on the demand side must be ensured. Hence, resources are needed not just for the development of the

idea but also for overcoming the collective switching costs (Shapiro and Varian, 1999) of future customers. This leads to the following proposition.

> ***Proposition 6.*** *New economy initiatives involve much larger up-front investments than do initiatives in the traditional economy.*

Crossing boundaries

Boundaries between firms become blurred in the new economy for various reasons. First, the need to overcome switching costs and create a large network has led competitors to open their networks or merge their networks with each other (Shapiro and Varian, 1999). This process impacts initiatives, since such merging needs to be taken into account when the product or service is being developed.

Second, in order to lock in customers, an increased relatedness among various product or service offerings is pursued. In the service sector, which is subject to mild increasing returns according to Arthur (1996), this often translates into one-stop shopping for customers. Creating such interrelatedness requires the crossing of firm boundaries in order to link previously disconnected fields, such as banking and shopping.

Third, although increasing returns need not necessarily stem from information technology, the latter is considered to enable increasing returns. It is regarded as a communication facilitator among organizational units, such as between product development, marketing, and accounting, thereby eliminating functional boundaries (Teece, 1998). It is connecting fields that were previously disparate, such as personal computers, domestic appliances, publishing, telecommunications, and the film industry. With information technology being an important driver of increasing returns, it is to be expected that many new economy initiatives will make use of it (Kelly, 1998) and that these initiatives will therefore display much boundary-crossing activity. For these reasons, we expect that:

> ***Proposition 7.*** *New economy initiatives cut across organizational boundaries to a much larger extent than traditional ones.*

Methodology

To analyze and compare the trajectories of new economy and traditional economy initiatives in well-established firms, we selected four large Dutch firms in different industries for reasons of theoretical sampling and "planned opportunism" (Pettigrew, 1990). We chose such a diverse range because this study was exploratory in nature since the difference between new economy and traditional economy initiatives as yet has not been uncovered (Eisenhardt, 1989). We chose to investigate KLM Cargo, Van Ommeren Tank Storage, GWK Bank, and Ericsson Telecommunications because they were, in one way or another, facing pressures from the new economy. KLM and Van Ommeren, for example, were confronted with customers wanting one-stop shopping. GWK Bank was confronted with the establishment of a single European

currency, the euro, and Ericsson faced diffusing industry boundaries and the consequent desire of various parties to integrate their customer networks.

Data Collection

For each firm, we selected one project that best fit the description of a new economy initiative and another of the traditional economy kind. Projects were categorized as new economy initiatives if they were aimed at capturing increasing returns in the market—for example, by trying to induce network externalities, by aiming at locking in customers or low marginal costs, or by creating greater technological interrelatedness. Similarly, projects were categorized as traditional economy initiatives when they were not aimed at capturing increasing returns—for example, when marginal costs remained high, when technological interrelatedness was not high on the agenda, when lock-in was not pursued, and when network externalities were not envisioned.

These initiatives were selected out of a larger pool of projects—on average eight projects per firm—that functioned as the selection set (see Table 1). This larger set was necessary because it was not known in advance which projects would be encountered and analyzed during our investigation. Hence, all projects of the selection set were analyzed. This was done by conducting two to four semistructured interviews with the key persons involved in the initiative, including top managers, business-unit managers, and front-line managers. All interviews were taped and transcribed. Document analysis was also carried out to verify the respondents' answers.

The trajectories of the projects were described in written case reports. This included plotting the trajectories in multilevel stage models similar to those of Burgelman (1983) and Schroeder et al. (1989), thus creating a taxonomy of projects. The model consisted of a horizontal axis containing the various stages: idea sensing, idea generation, development, and consolidation. The vertical axis contained three hierarchical organizational levels: top, middle, and frontline. Within this model, the various managerial roles associated with the process (similar to Barnard, 1938; Selznick, 1957; Chandler, 1962; Bower, 1970; Bartlett and Ghoshal, 1993) were plotted. In this way, trajectories of thirty initiatives were analyzed in the four firms.

In hindsight, with full knowledge about the content of the projects now available, we chose per firm two outliers: the most new economy and traditional economy project. We chose them because such projects could be said to possess most clearly either new economy or traditional economy characteristics. By choosing this method, the two sets of initiatives would be "purer" with respect to their characteristics. In this way, we arrived at a total of four new economy and four traditional economy projects in the four firms.

Triangulation was used to gather different types of data that could be used as cross checks. Like Pettigrew (1990), we conducted in-depth interviews, used documentary and archive data, and used observational and ethnographic materials.

The *in-depth interviews* were conducted with the key players in a project situ-

Table 1
Data collection

	KLM Cargo	Ericsson	Van Ommeren	GWK
Projects	9	9	6	6
Interviews	27	20	20	30
New economy initiative	BU Logistics	NetProd	Coop	New Channel
Traditional economy initiative	Dangerous goods	EDI	Customer Link	Transparency

ated at the front-line, middle-management, and top-management levels. Because various key players, notably in the higher echelons, were involved in various projects simultaneously, we could combine the tracing of these projects in a single interview. This resulted in an average of three to four interviews per case. Interviews were tape-recorded and then transcribed into English. To conduct the interviews we used a semistructured questionnaire (Wielemaker et al., 2000) that had been discussed and tested by our research team.

The *documentary and archive data* included the company strategic plans for three consecutive years, the business plans for projects, the transparencies used to convince the top-management team that the project was worth going ahead with, letters and memos pertaining to projects, and company newsletters.

Observational and ethnographic material consisted of site visits to meet staff and facilities, informal chance meetings and conversations, participation in formal meetings, sessions, and workshops.

Because we were actively involved in carrying out this research for about half a year per company, in the years 1994 (KLM), 1995 (Van Ommeren), 1996 (GWK), and 1997 (Ericsson), the research team of five people regularly met to discuss interpretations of the case material and ensure objectivity.

At the end of our investigation, we presented the findings in three separate meetings to the top-management team and to interested employees from various hierarchical levels and from strategic business-development groups. Furthermore, we held a feedback workshop with all the participating companies. This was done both as a form of feedback to the companies and as a means of securing internal validity through a post measurement (Cook and Campbell, 1979), checking whether the findings matched the further development of the cases, and through explaining the relation between constructs (Yin, 1989).

Short descriptions of the investigated firms and initiatives

KLM Cargo

In 1994 KLM Cargo, a division of KLM Royal Dutch Airlines, shifted from "Air Network," which offers a distributed network with a central hub, to "Air Logis-

tics." KLM Cargo's new strategy became centered on end-customers that were prepared to pay extra for value-added products. KLM Cargo wanted to provide integrated logistics instead of only transport and distribution services. It flattened its organization, cut down the bureaucracy, empowered people, and carried out organizational changes in order to get closer to customers and to act innovatively and swiftly.

The "BU Logistics" project, the new economy initiative at KLM Cargo, was aimed at increasing their cargo transportation network in order to cover a larger part of the world and to offer extra services of value to customers. It did not involve the Internet, but tried to lock in customers by offering them a one-stop service that would increase the costs of switching to another freight carrier. Also, by connecting previously separate cargo-transportation networks, network effects would operate because of the enlarged customer base. Therefore, KLM carried out various acquisitions—for example, of a trucking firm—and it set up subsidiaries where acquisition was not an option. At the time of our research, this project was still in the development stage.

The "Dangerous goods" project, the traditional economy initiative at KLM Cargo, was aimed at obtaining an international E-status permit, which would allow the company to transport dangerous goods worldwide. At the time, the handling of dangerous goods was carried out by third parties for KLM Cargo. The purpose of the E-status project was to have KLM Cargo do this themselves.

Van Ommeren Tank Storage

Van Ommeren is one of the leading tank storage companies in the world, providing tank storage and tanker shipping of liquids such as oil and chemicals. Van Ommeren went through some reorganization, in the course of which a management layer was removed with the intention of creating a more responsive organization, but which was painful and resulted in the drying-up of bottom-up initiatives. Our research took place three to four years after this reorganization. One of the concerns of top-management at that time was the ability for growth in an essentially mature market for tank storage and tanker shipping.

The new economy "Coop" project (name changed for reasons of confidentiality) was aimed at increasing the cooperation between previously disconnected segments of Van Ommeren—sea transport and transport using inland waterways—in such a way that it could offer one-stop shopping to its customers, creating a stronger relation with customers, and thereby increasing client switching costs. Two key problems had to be tackled. First, cooperation between different parts of Van Ommeren was not easy as these units had a different culture and different routines. Second, clients had to be convinced that they had to outsource not only the transport and storage but also a substantial part of their logistics departments, as Van Ommeren aimed to take care of the coordination of these activities as well. This cooperation led to mild increasing returns because of the enlarged client network

and lock-in of customers, an analogy to the airline-company argument put forward by Arthur (1996), since the additional clients brought in by the coupling of the previously disconnected networks would improve the load factor and therefore the services offered to the clients.

The traditional economy "Customer Link" project (name changed for reasons of confidentiality) was aimed at taking care of the logistics and handling chemicals for an important customer. The client has outsourced the storage and transport of chemicals exclusively to Van Ommeren. In fact, Van Ommeren has built storage facilities next to the customer and installed a pipeline between their storage facilities and the customer production unit. This outsourcing arrangement was aimed at reducing handling costs between the two by having an open bookkeeping arrangement. This arrangement was set up in order to split the benefits of this exclusive arrangement.

Ericsson Telecommunications, The Netherlands

This subsidiary of Ericsson Sweden used to provide telecommunications equipment to the Dutch national telephone operator, PTT. At the time of our investigation, the Dutch telecommunications industry was opened up to other operators besides the original monopolist PTT. Hence, Ericsson Telecommunications is now also the preferred supplier for new operators such as Libertel, Enertel, and Telfort. Because some of the new operators, who originated outside the telecom world, demanded extra services from Ericsson such as the marketing and distribution of mobile phones through retail outlets—which Ericsson did not need to carry out before because the original monopolist had handled these services on its own—and in general because of the integration of the telecom, computer, and multimedia world, Ericsson Telecommunications had just restructured at the time of our investigation in 1997.

The new economy "Netprod" (name changed for reasons of confidentiality) initiative at Ericsson involved the fusion of fields of expertise that lay outside the area of telecommunications. Moreover, it involved the setting up of a network of users. The project included cooperation with various partners who were not in the telecommunications business, and it was notable for the large sum of up-front investment necessary. The project did not involve the Internet but was based on the fusion of information technology and telecommunications. It pursued technological interrelatedness as well as the cooperation with outside partners in order to merge user networks and enforce network externalities.

EDI, Ericsson's traditional economy initiative, tried to reduce communication costs and errors with its major customer PTT. The project was aimed at making data exchanges more efficient by setting up an electronic data interchange, which was to be integrated with the internal materials requirement planning software. The only partner involved was an information technology firm that specialized in setting up data interchanges.

GWK Bank

This Dutch bank specialized in exchanging currencies at railway stations and border crossings. When we undertook research at GWK in 1996, the firm was in a reorientation phase. The increase in electronic banking and, more important, the upcoming introduction of the euro, would have a strong impact on the bank because its main activity was exchanging currencies: currencies that would no longer exist once the euro arrived. This doom scenario forced management to reflect on its existing activities and start searching for new ventures. It was in this stage of exploration that our investigation at GWK took place.

"Project NewChannel" (name changed for reasons of confidentiality), the new economy initiative at GWK, was aimed at introducing a new distribution channel for various financial, tourist, and other services such as the sale of mobile phones, concert tickets, and hotel bookings for third parties. Pilot projects were to be carried out to test the market potential of financial, tourist, and other services. The shops were to be set up together with NS, the Dutch railroad company, that would attract the traveler who made use of the rail transportation.

"Project Transparency" (name also changed for reasons of confidentiality), the traditional economy initiative at GWK, was aimed at restructuring the sales and marketing departments into two separate units in order to increase accountability, which beforehand had proven difficult. Moreover, the separation was to increase customer service and reduce redundancy. The project was carried out internally without any external partners.

Analysis and results

The main findings of the reports of the four new economy and four traditional economy initiatives out of a total of 30 studied are summarized in Tables 2 and 3.

New economy initiatives

Ericsson's new economy initiative, NewProd, started out with a suggestion by a client of the basic idea, then moved from the middle to the top layer and then circulated back and forth between the top and middle layers. It involved very large up-front investments even requiring external resources, involved unconnected fields of expertise, and consisted of various trials with the client. From Ericsson's point of view this initiative was a radical departure from its existing mode of guiding initiatives because of the involvement of outside partners and the huge up-front costs that exceeded those of any previous effort. The initiative's organizational form was planned.

KLM's new economy initiative, BU Logistics, moved from the top level down, but kept moving back and forth between the two top layers, which were unable to

involve the front line. KLM had trouble getting the initiative implemented by the front line. It required very large up-front investments and concerned the integration of previously disconnected fields, but as opposed to the initiative at Ericsson did not consist of any trials and seemed to evolve in an incremental fashion. Its organizational form lay in between the flexible and chaotic.

Van Ommeren's new economy project, Coop, also started from the top and then moved back and forth between all levels, including the front line. Although fewer large investments were needed than in the above-mentioned two initiatives, the up-front investments were still significant. The cooperation between two previously disconnected units proved to be difficult because of the different modes of operation. It was carried out incrementally and its organizational form could be described as quite chaotic.

The final new economy initiative, NewChannel at GWK Bank, differed from the others because it involved a limited amount of up-front investment. The trajectory moved from the middle to the top, but similar to the other three new economy initiatives showed a lot of movement back and forth between levels. Its organizational form was of the flexible type. It involved phasing and sequential funding, as did all new economy projects.

Traditional economy initiatives

The four traditional economy projects were similar to the new economy ones in that they all involved phasing and sequential funding. All traditional economy projects involved limited up-front investments. The Ericsson initiative, EDI, was a typical top-down implementation project that involved the setting up of an electronic data interchange. The form was of the planned type. The only other expertise involved that was new for Ericsson was that of electronic data interchange, for which an external firm was brought in.

The KLM traditional economy project, Dangerous goods, was a bottom-up project that moved from the front line to the middle without requiring the involvement of top management. It was of the planned form. The expertise on dangerous goods was already present but needed to be operationalized in order to obtain the required E-status permit.

The Van Ommeren traditional economy initiative, Customer Link, was suggested by a client and concerned the carrying out of activities for that client. It moved from the middle up in order to obtain legitimization. The firm's boundaries were only crossed to set up the interface with the client. The form was of the planned type.

Transparency, the traditional economy initiative at GWK Bank, was about the restructuring of the sales and marketing unit and proceeded in a straightforward top-down implementation fashion. Just as with the other three traditional economy initiatives, it involved limited up-front investments. It was also of the planned form, as were the others.

Table 2
Study results for New Economy initiatives

		Ericsson	KLM	Van Ommeren	GWK
	Initiative	Newprod	BU Logistics	Coop	NewChannel
	Focus	Large user network	Increased networking and services	Improved customer relations	New distribution channel
Characteristics	Up-front investment	Very large: external resources required	Very large	Large	Limited
Characteristics	Crossing boundaries	Crossing unconnected fields	Crossing unconnected fields	Crossing different BU boundaries	Crossing unconnected fields
Characteristics	Uncertainty	High	Reasonably high	High	Limited
Characteristics	Phasing	Yes	Yes	Yes	Yes
Characteristics	Sequential funding	Yes	Yes	Yes	Yes
Characteristics	Involved experiments	Trial with customers	Incremental expansion	Incrementally tried out	Pilot projects
Trajectories	Idea sensing	Client, Middle	Top	Top	Middle
Trajectories	Idea generation	Top, Middle	Top, Middle	Top	Middle
Trajectories	Development	Top, Middle	Top, Middle	Top, Middle Front-line	Top, Middle
Trajectories	Consolidation	–	–	–	–
Trajectories	Project form	Planned	Flexible/ chaotic	Chaotic	Flexible
	Current status	Not completed	Not completed	Not completed	Not completed

The general trajectories

As for the path trajectories, we have drawn a general trajectory based on the case reports. It is appropriate to point out that the clear-cut picture as represented in Figure 1 and Figure 2 is an oversimplification of a process that involved much more dynamics than presented in the figure, but that was chosen for the benefit of revealing general patterns. The traditional economy initiatives showed two general patterns. A one-directional, bottom-up legitimization pattern, as occurred at

Table 3
Study results for traditional economy initiatives

		Ericsson	KLM	Van Ommeren	GWK
	Initiative	EDI	Dangerous goods	Customer Link	Transparency
	Focus	Efficient data exchange	Dangerous goods certification	Improving client interface	Reducing redundancy
Characteristics	Up-front investment	Limited	Limited	Limited	Limited
	Crossing boundaries	Limited to EDI interchange	To a limited extent	Limited to client interface	No
	Uncertainty	Low	Low	Low	Limited
	Phasing	Yes	Yes	Yes	Yes
	Sequential funding	Yes	Yes	Yes	Yes
	Involved experiments	Direct implementation	Direct implementation	Direct implementation	Direct implement.
Trajectories	Idea sensing	Top	Front-line	Client, middle	Top
	Idea generation	Top, middle	Front-line	Middle	Top
	Development	Top, middle, bottom	Front-line	Top, middle	Top, middle
	Consolidation	Middle, bottom	Top, middle, front-line	–	–
	Project form	Planned	Planned	Planned	Planned
	Current status	Ended successfully	Ended successfully	Not completed	Not completed

KLM and Van Ommeren, or a one-directional, top-down implementation pattern as shown by Ericsson and GWK. The new economy projects showed a single pattern that was not unidirectional; the trajectories moved back and forth across the layers often involving many levels at the same time.

Verifying the propositions

Returning to our propositions, the data suggests that there are indeed differences between new and traditional economy initiatives and in the ways they are managed, but that the differences are not very pronounced in all aspects.

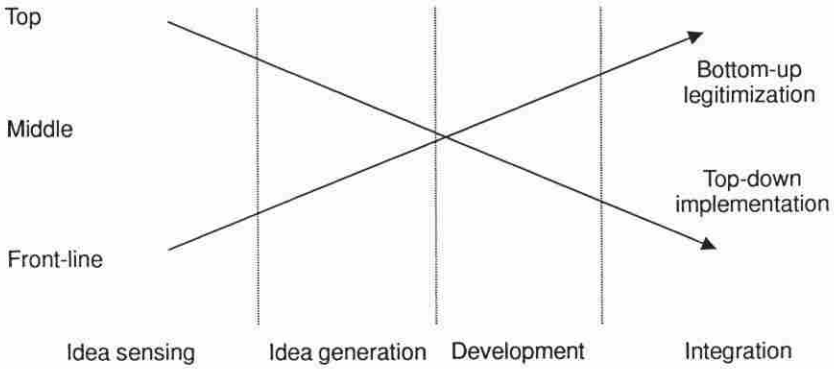

Figure 1. Process model of traditional economy initiatives

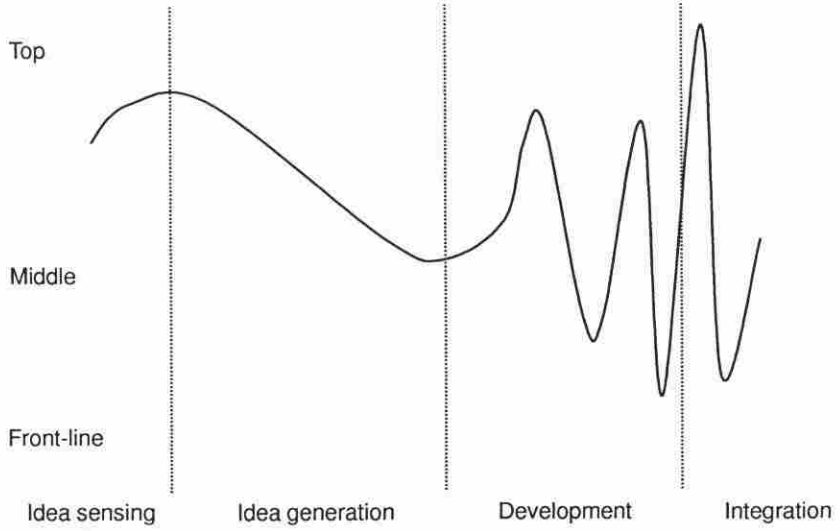

Figure 2. Process model of New Economy initiatives

First, three out of the four new economy initiatives were of the chaotic or flexible form, whereas all four traditional economy ones were of the planned or rigid form. Proposition 1—on the organizational form of initiatives—is therefore supported.

Second, three out of the four new economy initiatives were separated from ongoing activities, but this occurred with only one out of the four traditional

economy efforts. Proposition 2—on the separation of initiatives—therefore is supported reasonably well.

Third, regarding top management involvement, the data shows three out of four initiatives of the new economy type had top management involvement from the idea generation stage on, whereas this proportion was reduced to two out of four for traditional economy initiatives. The organizational champion in all new economy cases was a top manager, whereas this was only the case for two of the four traditional economy projects. Proposition 3—on top management involvement—is thus also supported.

Finally, although most new economy projects did indeed display cross-level behavior, various traditional economy initiatives did so as well, albeit in a less pronounced manner. Proposition 4—on the path of initiatives—is thus only moderately supported. However, it is notable that none of the new economy initiatives have reached the consolidation stage, but were positioned somewhere between the development and the consolidation stage—whereas two out the four traditional economy ones have reached the consolidation stage. Although this could have happened by chance, we think this might be due to new economy initiatives having greater trouble fitting in with the well-established activities of the firms. Altogether, the data suggests that new economy initiatives to some extent follow different trajectories than do those of the traditional economy type, with the initiative forms of the former being more separated from the main hierarchy and more organic, that is, more fluid.

Besides project trajectories, this study also compared new and traditional economy initiatives on the basis of various characteristics such as sequential funding, the use of large up-front investments, and the degree to which a project cut across organizational boundaries. The characteristic of increasing (new economy) versus diminishing (traditional economy) returns had already been used for the selection of the two types of initiatives. Our empirical analysis of the characteristics mentioned at the beginning of this paragraph reveals that the two kinds of initiatives differ on some of these characteristics but not on all.

First, it was not possible to ascertain a difference in phasing or sequential funding between the kinds of initiatives. Proposition 5—on the phasing and sequential funding of initiatives—is thus not supported. However, it is notable that all traditional economy initiatives were implemented without trials, whereas the new economy efforts involved two initiatives with pilot projects.

Second, whereas all traditional economy initiatives required limited up-front investment, two out of the four new economy initiatives required very large up-front investments—and one a large one. Proposition 6—on the extent of up-front investment—holds up reasonably well.

Finally, all new economy projects did indeed cut across organizational boundaries, whereas three out of four traditional economy initiatives did so to a limited extent and only with a single client interface. Proposition 7—on crossing of organizational boundaries—is thus reasonably well supported.

It thus seems that both types of initiatives do not differ on the use of phasing and sequential funding, but that new economy projects involve larger up-front investments and cut across organizational boundaries to a larger extent than do those of the traditional economy.

The data therefore show that there are indeed differences between the two types of initiatives. Surprisingly, a difference in the phasing and sequential funding was not empirically supported. Perhaps this mechanism is used by both types of initiatives, with the larger uncertainty of new economy initiatives being reflected more in the use of trials. Overall, the findings suggest that large firms treat new economy initiatives differently from those aimed at the traditional economy.

Discussion

This study revealed that there are indeed differences between new economy and traditional economy initiatives and that well-established firms recognize and react to these differences. Firms treat new economy initiatives differently by separating them from ongoing activities and by organizing them in a more flexible manner. Although further research is required, we infer from the data that firms have problems integrating such new economy initiatives with their more traditional activities.

This was intended as an exploratory study and is therefore subject to various limitations. First, it would be interesting to know which organizational forms of firms—rigid, planned, flexible, or chaotic—are more conducive to new economy initiatives. This will require a comparative and quantitative study in which the success rate across various organizational forms is measured. Even though the current study looked at initiatives across organizational forms, it did not enable a quantitative comparison of initiatives because it was set up to compare differences in the development processes between traditional and new economy initiatives, not to measure the number of successful new and traditional initiatives.

Second, this study took single initiatives as the unit of analysis, rather than groups or bundles of them. New studies could take populations of multiple initiatives into account, a bundled approach, as suggested by McGrath in her 1999 article on real-options theory. Such studies could reveal whether the venture capitalists' practice of portfolio funding is also used in well-established firms when it comes to new economy initiatives. It would offer insight into firms' acceptance of initiative failure based on the success of other ones.

Third, this study selected a single new and traditional project per firm. Future studies should carry out comparative studies within a single firm to test on equifinality, because perhaps various new economy projects within a single firm can follow different trajectories. These studies should consist of more initiatives than just one of each type per firm, as was the case in our study, in order to check for the possibility of equifinality.

Notwithstanding these limitations, this exploratory study has shown that the distinction between new economy and traditional economy initiatives is fruitful

both for research purposes as well as for the management of well-established firms. The data suggests that firms need to organize initiatives catered to the new economy differently, not only in terms of funding but also in terms of project structure. If they manage to do so successfully and these initiatives hit the demand side, their well-established nature will no longer serve as a detriment but as an advantage in the new economy.

One major change that well-established firms must cope with in dealing with new economy initiatives is the larger role of top management. In terms of the content of these ventures, management has made considerable effort to grasp the new subjects. In terms of process, they have remained committed to allocating resources through sequential funding and to organizing initiatives in stages, but have intensified the use of separate organizational structures and pilot projects for new economy initiatives. Because of the required large up-front investments for new economy initiatives, top managers of well-established firms are turning into venture capitalists within their firms in order to obtain and allocate sufficient resources to these projects.

However, top management seems to fail when it comes to assuming a hands-on role similar to that of the venture capitalist. The early involvement of top management in the new economy initiatives in this study implies that top management should do more than just supply resources, but should also engage in the initiative more actively in terms of monitoring progress, offering advice, and providing linkages to complementary assets and knowledge. The fact that the trajectories of new economy initiatives bounce back and forth between middle and top suggests that top management is not taking on this role in the manner it should. Top management should, in our view, actively participate in the set up and development of new economy initiatives, not just in the legitimization and resource allocation.

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