

Management of Creativity in Video Game Development: A Case Study

Peter Zackariasson
Martin Walfisz
Timothy L. Wilson

ABSTRACT. Video games and their production have evolved over a few decades from being “fun” exercises at universities to a business in which annual revenues have exceeded that of Hollywood box office receipts. Presently, development of these games has become technically more advanced, and the barrier to entry into this market as a developer is getting increasingly more costly. Consequently, there has been a move toward “professionalism” of these efforts that embodies flexibility into the creative development process. In this paper we report on the process used to develop new offerings in a successful Swedish firm. We reflect on the institutionalizing of creativity in this process and the leadership style used in directing it. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com> © 2006 by The Haworth Press, Inc. All rights reserved.]*

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Peter Zackariasson (E-mail: peter.zackariasson@fek.umu.se) and Timothy L. Wilson (E-mail: tim.wilson@fek.umu.se) are affiliated with Umeå School of Business and Economics, Umeå University, S901 87 Umeå, Sweden.

Martin Walfisz is affiliated with Massive Entertainment, Box 4297, Malmö, Sweden. (E-mail: martin@massive.se)

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INTRODUCTION

Video games and their production have evolved over a few decades from being “fun” exercises at universities to a \$20 billion plus business (DCF, 2004). Despite the short time that this industry has had to evolve, it has been common to compare its size with the entertainment giant in Hollywood. Whether one is a gamer or not, one has to admire the creativity that has gone into developing these games. Games have progressed from the moving dot of *Pong*, to the icons in *Pac-man*, to the three-dimensional “real-life” figures and objects that are now movie-like with manipulative endings. Further, the development process has moved to coordinated team efforts. That is, at one time this creativity could be captured by a single individual, but video games are now so complex that they require *group* development.

Video games fit into the U.S. census group, sports, arts, and entertainment services, which coincidentally is one of the ten broad service categories developed by Fisk and Tansuhaj (1985). This grouping derives from the observation that it primarily represents a “pure enjoyment” need satisfaction as compared with groupings such as health care or financial services, which meet our more basic needs in living. The latest information from annual updates of the census (Service annual survey, 2003) indicates this segment had total revenues of \$157 billion, an average annual expenditure of \$628 per person. In 2003, the video game industry reached revenues of \$23.2 billion (DCF, 2004). The need fulfillment of this service relates to the highest level on a Maslov relationship (cf. Kotler, 2000, 172 ff). That is, although there may be segments that derive some sense of belonging from gaming (Maslov level 3), or status from participation (Maslov level 4), the majority segment’s need fulfillment is one of self-actualization (Maslov level 5).

The necessity of widespread group development in this industry encourages study of these operations. Specifically, not only does creativity receive attention, but a second characteristic, leadership, deserves introspection as well. First, creativity drives this industry. A case can be made that observations of successfully institutionalized creativity are underdocumented and not fully understood. It, therefore, is fundamentally interesting to see how a characteristic that is normally thought to be individualistic is handled in a group setting. On the other hand, this topic also cues thoughts about organizational development. That is, from background such as a Greiner (1972) growth model of organizations, focus is put onto *creativity* and *leadership*—creativity, because the first stage in growth in an organization’s growth is called

creative growth and leadership because the first crisis in organization development is frequently a leadership one.

In this paper we report on the creative approach used and the leadership required to develop new offerings in a successful Swedish video game development firm. In part, the study relates to a misconception that may exist for development within this industry, i.e., that it may be non-business like. On the contrary, regardless of the business, certain things have to be done. That is, in order to survive, these things should be done with some dispatch. In this case, the development concerns an output that represents an advancement in “fun,” reduced to a binary code. We thus describe the approach and associate it with classic management background. In effect, development finds it essential to promote the creativity of the team, but at the same time, a finished offering must be produced that can be successfully marketed. It is thought that this understanding will lead to a better comprehension of the creative process and the leadership required to promote it. The paper should not only be of direct interest to individuals in the applied software industry, but also to students of managed, creative processes.

BACKGROUND

The Video Game Industry

The history of this industry is rather interesting. The construction of the first computer game is ascribed to Steve Russell, an MIT student who produced the code for *Space Wars* in 1962 (Kent, 2001). In a very short time this game became immensely popular, and it is said that the game was copied to most computers in the United States. One of Russell’s subsequent students, Nolan Bushnell, would later establish Atari, which of course was highly successful in the early video game business. Although the first game was made for a mini-computer, the main platform for video games in the early 70s was the bulky arcade machines. The most popular game on these machines was the legendary *Pong*, a tennis game for two. In the early 80s consoles were introduced on the home entertainment market, and initially these became highly popular, only to later be replaced by the PC. Today consoles have again acquired a strong position in the market and again dominate as the main game platforms.

Recently, video games¹ have become technically more advanced and the barrier to entry into this market as a developer is getting increasingly

more costly. From the perspective of the video game developer, there is a fine balance between pushing the game technology (mainly the graphical engine) to what is wanted and what the customers will likely equip their computers with (graphic card, processor, and RAM-memory) during the 2-3 years production cycle—a miscalculation in technology adoption could be the difference between a top ranking and a failure. Considering that the development costs usually start at \$1 and \$1.5 million, depending on genre, innovativeness etc., there is little room for mistakes. This has also meant a professionalism of the business as a whole, i.e., it is no longer possible to produce quality video games without major funding and expertise.

At present, the future in video games appears to be in Massively Multiplayer Online Games (MMOGs). The first of these games were released in the late 90s, e.g., *Ultima Online* (by Original, 1997) and *EverQuest* (by Sony Online Entertainment, 1999). With a production cost of about ten times that of a regular video game, these developments represent major investments. In return, however, the ROI of a top ranking MMOG is considerably higher than with a regular video game. In effect, the producer is supplying a virtual, persistent world in which the users, or “gamers” (for a monthly fee between 10 and 15 dollars), can interact and enjoy the game. Despite its age, in 2002 *Ultima Online* still had 235,000 subscribers. With the increasing bandwidth and access to Internet, MMOGs at this point seem to be the future in video games. For example, the MMOG *Lineage* (NCSOFT, 1998), with its over 4 million subscribers, is presently amongst the biggest MMOG on the market.

Effective Organizations

It has become somewhat fashionable to discuss business activities in terms of efficiency, “the right way” and effectiveness, “the right things” (cf. Drucker, 1967; Vuorinen et al., 1998; Haynes, 2002, 108). Efficiency, of course, is the idea of single-loop learning, whereas effectiveness conveys the idea of double-loop learning (Argyris & Schon, 1978). There are two ideas in particular that are germane in discussing the development of video games. First, in terms of efficiency, there is the idea of conducting projects in which creativity is at a premium, but in which goals cannot be clearly defined at the outset. Nevertheless, these projects must be conducted in a financially prudent manner. Second, with regard to effectiveness, there is the concept of adaptability in operations. For the first of these, the background we cite relies primarily on the seminal work of Lindblom (1979, 1959), and for the second, some

work that relates to changing organizations, which depends significantly upon leadership.

Creative projects. Projects typically are the antithesis of creativity and/or flexibility. That is, the nature of a project or project management approach implies that the undertaking will have a well-defined scope, a completion date, a budget for the cost of required resources, and firm requirements for objectives or end results (cf. Nicholas, 2001, 29). Particularly attractive in this approach is the nature of planning and scheduling that can be done in order to assure task management and completion. The uniqueness characteristic of projects carries with it, however, an understanding that a range of project activities exists—from rather mundane to rather complex (Nicholas, 2001, 4-7).² In effect, there is a hierarchy in projects. Some can be defined very well in advance; others can be realistically described only after completion. With respect to these observations, Simon (1996, 206-212) has described the architecture of complexity as being a structure that can contain repetitive, simple structures. “Complexity” is provided by “layers” in between, but many complex systems have regular, simple blocks within them.

As will become clearer with our observations in this paper, video games are developed as “projects,” but one reads little about creative projects. Obviously, there are projects that advance the state of the art, but these projects usually are covered under “innovation.” In this regard, it is interesting to note that the *Product Development and Management Association* differentiates between creativity and innovation (PDMA, 2004):

Creativity: “An arbitrary harmony, an expected astonishment, a habitual revelation, a familiar surprise, a generous selfishness, an unexpected certainty, a formable stubbornness, a vital triviality, a disciplined freedom, an intoxicating steadiness, a repeated initiation, a difficult delight, a predictable gamble, an ephemeral solidity, a unifying difference, a demanding satisfier, a miraculous expectation, and accustomed amazement.” Creativity is the ability to produce work that is both novel and appropriate.

Innovation: A new idea, method, or device. The act of creating a new product or process. The act includes invention as well as the work required to bring an idea or concept into final form.

There is, of course, an association between the two concepts as suggested by the use of “creating” in the definition of innovation. Nevertheless, the idea of “revelation, surprise, or astonishment” clearly

distinguishes creativity from innovation. The unique difficulty in creative projects, as it were, is agreeing up-front what exactly the deliverables will be. It is difficult to anticipate, or at least quantify, "revelation, surprise, or astonishment." Goals thus tend to be both qualitative and transient. Progress is difficult to ascertain until progress is made, which puts these projects within the typology of decisions that Lindblom (1959, 1979) has described. That is, ends and means become intertwined. One is thus left to "muddle-through" (1959) or "incrementalize" (1979) one's way to progress.

Leadership in adaptability. Leadership is a process that is socially constructed (Berger & Luckman, 1966). In other words, it can mean different things in different contexts. Nevertheless, relationships that exist between leader and followers are associated with the ability of organizations to adapt, and it may be particularly important to investigate leadership in creative situations. That is, the "crisis" that frequently is observed in creative growth situations is a leadership crisis (cf. Jones, 1999, 449-451). The classic crisis arises when the entrepreneur can no longer manage the growth of the company that he started. Either the entrepreneur must adapt, or someone brought in to manage the situation (Jones, 1999, 449; Storey, 1998, 150).

Leadership is thus important in an organization's ability to take advantage of situations. As others have done, Hayes (2002, 109) distinguished between leaders and managers. He suggests managers are focused on "doing things right," whereas leaders are more inclined to "do the right thing." Carnall (2003, 148-149) indicates that leadership is particularly important in adapting to change. Organization leaders "enable people to contribute, solve problems (and) learn from experience. . . . To avoid complacency the leader will put continuing pressure on the organization." Collins (2001, 22-41), in his study of firms that were able to make the transition to "greatness," found that the process invariably started with leadership. These individuals tended to have strong resolve, and started the process by "getting the right people on the bus." In start-up firms, creative growth can be associated with entrepreneurs who repeatedly generate new ideas, but organizations must eventually grow beyond the dependence upon this single source (Jelinek, 1979, xv).

Computers have found their way into most operations and their association with leadership is no exception, which is contrary to early observations. In his analysis of the impact computers might have in making executives effective, Drucker (1967, 159-162) tended to be skeptical of the role they might play in executive functions. That was then, but this is now. In the situation observed in this study, the computer was the

essential tool used in video game development. It also served, however, as a primary co-creator of communication and decision-making. Human and computer were so inseparable that the process of interpreting reality and providing direction has been labeled *cyborg leadership* (Zackariasson, 2003).

METHODOLOGY

Basically, the intent of this research was to identify the important variables associated with some specific operations. Case studies have been acknowledged to work well in this regard (Aaker & Day, 1990; Bonoma, 1985; Green et al., 1988). It has also been suggested that such an approach may be useful in theory building (Glaser & Strauss, 1967). In particular, the use of detailed case studies has a long history in the study of organizations and their behavior, i.e., Cyert et al. (1956); Lawrence and Lorsch (1967); Bartlett and Ghoshal (1991).

Because of the interest in creative growth and leadership in this study, the primary research question that was considered was

+ In what manner does a successful, video game developer handle the creative process of game development?

Secondary interest was paid to the question:

+ What role(s) do(es) leadership play in this process?

Empirical information in this study essentially was collected over a period of two, separate weeks using observations and interviews. Observations provide the researcher with an understanding of situational language (Spradley, 1979) learning to “talk the talk” in order to grasp actions and relationships. In this sense, this research represented an ethnographic study (Van Maanen, 1988) in line with the studies of Mintzberg (1973) and Carlson (1964). These types of studies have gained appreciation is that the knowledge is based on actual practice in every day situations. Mintzberg based his study on what managers actually did on the observation of daily practice over two week periods. Carlson, who preceded the work of Mintzberg, based his studies on interviews and diaries of the managers. We utilized a combination of these approaches. Observing the CEO in action had the value of increasing the knowledge of daily practice. During the observations extensive

field notes were created. The knowledge from observations constructed a framework for extensive interviews. Thus, during this period eight interviews were performed with the CEO regarding different topics of leadership and other business activities.

The firm selected for this study had been successful in supplying video games (for PCs) to the industry and agreed to be a subject in this investigation. The methods of Lincoln and Guba (1985) and Patton (1990) were used to ensure rigor in the research. An initial meeting was arranged with the chief executive officer and discussions were conducted on the basis of previous literature reviews. Certain company history and operating information were provided as well as an understanding of information availability and access in this initial meeting.

Oral responses from the respondent were supported by collaborative discussions, company files and/or reports, which provided attention to internal validity, reliability, and triangulation concerns (Patton, 1990, 491). Field notes were kept of these meetings and subsequently transposed to more formal records of the projects. In interpreting the qualitative data, the method of Miles and Huberman (1994) coding was used. Discussions with peers on these observations provided a sense of credibility on the separate topics (Lincoln & Guba, 1985, 281, 308). Subsequent to the collection of information from the case, field observations and reflections were compared by the senior researcher on the case and subjected to external review.

OBSERVATIONS

The Firm

The company featured in this study was a product of the IT boom and its attendant beliefs in technology and creativity. The present CEO and a colleague founded the company in 1997 after graduating from a Swedish university. They had met previously on an Internet chat board where they found that they shared the interest of developing computer games—one (the present CEO) had a background in the technical area, the other a business education. Recalling the time, “everything seemed possible,” and together the principals succeeded in raising the funds necessary to start their business.

The business orientation of the company led to a degree of success from its very beginning. Initially the company expanded, producing both computer games and game applications for mobile devices. The

period that followed, however, was marked by ups and downs. Due to low capitalization and a receding market, the company was forced to lay off a major part of its employees and focus on its core competence, Real Time Strategy (RTS) computer games. This low point occurred at about the same time that the IT bubble burst. Although the business did not operate in the same market as the major IT companies that went bankrupt in about this time, it was affected just because its business was computer related. This situation changed at the end of 2002 when its previous producer (publisher) of their games bought the company. This major entertainment provider had at that time only one other development studio outside North America. In 2003, the developer's CEO also got a position in the parent company and now holds two positions within the expanded organization.

Today this company is one of the major Swedish computer game developers with about 30 employees, and the company's offerings are considered highly in the international marketplace. Presently, financial support from the new owner has enabled the company to expand once more. This support, in combination with the success of their latest computer game, presents a promising future for this company.

Projects Within the Company

Developments have continued to be organized within the company as projects. This approach of organizing seems to be standard among Swedish game developers (Dymek & Rehn, 2003; Robertsson, 2003). One of the ancillary reasons for this approach has been the relationship with the publisher (a relationship that could be compared to that of other entertainment businesses, as films or theatre, for example). That is, contractual and deliverable issues are typically based on the traditional milestone model of projects.

In the process of developing a computer game that was launched in 2000, the CEO started to develop an in-house project approach. This approach takes present milestone models as a starting point, but adopts these models to provide more flexibility in processing. The dissatisfaction that gave rise to this new model was mainly that there is no possibility of specifying in detail features that will make a computer game fun to play and immersive before starting a new project, which is a requisite built into a traditional milestone model. The model has been in use since then, constantly developed and refined as the need arises.

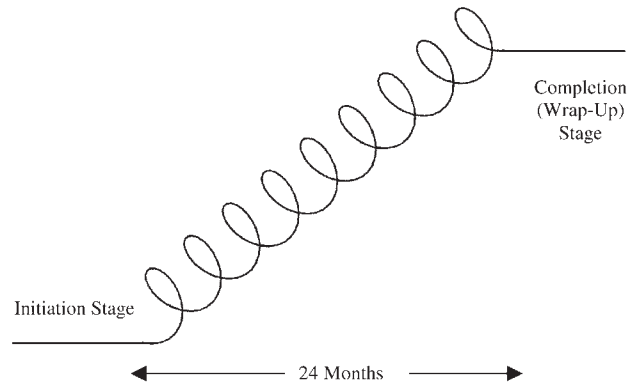
With regard to this situation, the one objective the game development studio had was to develop games that were "fun and immersed their

gamers.” Fun and immersion, however, had to be defined as the games were built. The in-house approach that was set up thus ascertained whether fun was being built into the game as it was developed. In the initial phase of the project a concept team developed a number of conceptual documents and sketches of the game. When a concept was agreed upon as a good platform to start from, the development phase would be initiated. Each two weeks the portions of the game that had been developed were placed into a “build,” which was a playable version of the game. It was at this point that an *aesthetic* aspect of creativity entered. Quality in development, both technical and aesthetic, could be assessed on the basis of these intermittent builds and changes could be made accordingly. Participants were encouraged to keep this in mind. Visible throughout the office space were banners that posed the question, “What can I do today to improve the experience of the gamer?”

The company has thus developed a heuristic (cf. Simon, 1996, 27-28) that allowed it to systematically approach its opportunities while maintaining an element of control. This model not only affected each project individually, but the whole company as an enterprise (Zackariasson et al., 2004). Basically, the in-house approach ran 10-day mini-projects with each team working on its area. At the end of ten days, things were put together and progress was evaluated toward the “(more) fun” game. These builds impacted future goals. Simon (1996, 162) has in fact suggested that a paradoxical, but perhaps realistic, view of design goals is that they both motivate activity and generate new goals. An attempt has been made to diagram this approach in Figure 1, in which we show it as a spiral sloping upward with two tails. The tails represent the initiation and completion stages of the project. The cycles tend to be circular, but because there is ongoing progress, the overall process is represented as a spiral to connote continued progress. Finally, although Gantt charts, which are normally utilized in planning and controlling projects, are normally downward flowing toward completion, we have sketched the helix as tilting upward. In this way, we connote progress as “spiraling up” toward a desired state of output instead of “spiraling down.”

A cross-sectional depiction of a single cycle in this helix would suggest that three types of decisions are made in each phase of development. First, there are the “continuous opportunities of redefinition.” Drucker (1967, 8) has indicated that in knowledge work, individuals at the lowest level can (are forced to) make decisions that critically affect company performance. As a policy, the company preferably hired “gamers” within each specialty. By the very nature of the task, individuals were given latitude (redefinition opportunities) in the approach

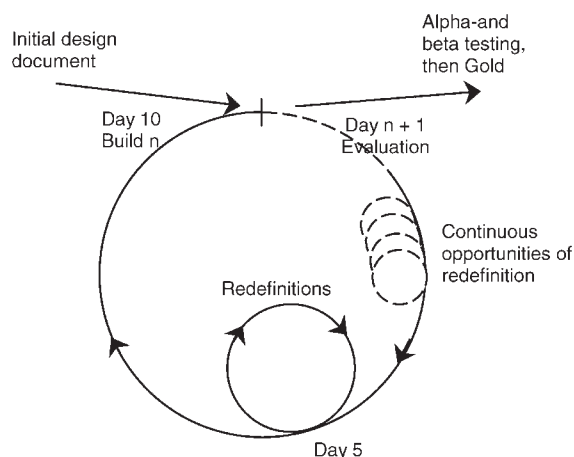
FIGURE 1. Lindblomian Nature of Heuristic Development at Respondent Firm



taken to their assignments. The hiring approach ensured that decisions within this context would be made from a gamer's point of view—if it were exciting to the individual doing the job, there was a reasonable chance that it would be exciting to a paying gamer. The second type of decision came mid-way through the mini-project on the fifth day. At this point, the internal producer and team leads met and discussed approaches and problems. If there were needs for mid-cycle changes, they were addressed here so as not to waste the second week. Finally, the internal producer would put together advances to date in an operating build at the end of each 10-day cycle, which each staff member was expected to play. From the feedback from those individual experiences, an evaluation was made of efforts and the path for the next cycle was set (see Figure 2). In a two-year period, there could be 40-50 of these cycles that led to the final offering.

To add further insight into this approach, one of the outputs of the Braybrooke and Lindblom text (1963) was a strategy for decision-making. We think that the observations at the game development studio fell into that strategy. Essentially, the Braybrooke-Lindblom process had eight characteristics. These characteristics are identified in Table 1 and associated first with policy applications with which Lindblom, in particular, concerned himself (column 2) and then the observed development project (column 3). Without going into too great a detail, the Braybrooke-Lindblom process is associated with margin dependent choices in realistic situations. That is, any change should (will) be an improvement over the present state. Further, because only incremental

FIGURE 2. Individual Cycle in Video Game Development



changes tend to be considered, the number of alternatives in the game itself tended to be restricted. Although one might argue that this approach was not ideal, it did get the job done in a situation where parallel progress was required—and within the timeframe and cost structure that was imposed on the project.

In the particular field observation, the game was a sequel to the game that preceded it, a margin dependent choice. The game was developed on a platform (graphical engine) that was superior to the preceding. Previous experience suggested the type of engine desired and how game performance could be improved. The sequel had the same main character in the game, i.e., the same hero that the player directed, and around whom the story revolved. The basic ideas of the game were also the same, as were the ways of directing the troops in the game. That is not to say that changes were insignificant. Both the graphics and complexity had evolved. The first game received praise because of its good interface with the units in the game; this was something that the sequel extended. The sequel also supported internet and multiplayer gaming, as well as creating its own maps on which to play. All in all, the sequel had the basic components as the first one, but developed both technically and content-wise.

Leadership

The CEO's assessment of leadership was explored both through interview responses and observation of him in practice. His views, as

TABLE 1. Association of a Creative Gaming Project with a Lindblomian Approach

Steps in Process ¹	Policy Application ²	Application to Project
1. Margin-dependent choice	Any change should (will) be an improvement over the present state.	New game will be (was) a sequel to the game that preceded it. Graphical design engine developed to provide superior performance.
2. Restricted alternatives considered	Because (only) incremental changes are considered, the number of alternatives tends to be restricted.	Engine was developed from previous experience. Main character, theme, and direction of troops were an extension of previous offering.
3. Restricted consequences considered	Indirect consequences tend to be ignored.	Focus on "fun"—thus, social issues, etc. not primary consideration.
4. Adjusted objectives to policies	Only objectives are considered that are "reasonably" achievable in view of means at hand.	Developments depend upon the resources at hand—technology, time, money, and people.
5. Reconstructed treatment of data	Evaluation not necessarily made in terms of problem in its original form.	The evolutionary nature of subsequent developments is common in creative projects, i.e., this is where we are, so this is where we may go from here.
6. Serial analysis and evaluation	Policy development tends to take on long chains of policy steps.	Progress tends to be judged on the basis of past developments.
7. Remedial orientation of analysis and evaluation	Situations or ills may be identified that are moved away from instead of toward an objective.	When an approach does not show progress or a glitch appears, then it may be necessary to remedy the situation before proceeding.
8. Social fragmentation of analysis and evaluation	Policy formulation involves 100s, if not 1000s, of centers. Further, centers each take their own approaches and are in imperfect communication with each other.	Project progress depends upon design progress, which in turn depends upon art and audio progress. Parallel progress (and problems) must be accommodated in final product.

¹From Braybrooke, D. and Lindblom, C. 1963. *A Strategy of Decision*. London: The Free Press of Glencoe. 81-110.²Ibid.

stated in the interview, tended to follow classical thinking. Fundamentally, he suggested that leadership is basically about the ability to lead a group of individuals toward a goal as effectively as possible. That is, a measurable definition should be accomplished per man-hour. To be

able to do this as a leader, he felt it important to motivate individuals to take charge of the situation and not use the mandate as leader to force action. He continued that the knowledge the leader possesses is important in “legitimising” decisions. Therefore, having the hands-on experience of making computer games in the past he felt increased trust in suggestions made or decisions taken. Since the computer game industry is a young business, there are not many leaders with that much experience in making successful games. Nevertheless, there is also the matter of creating consensus in what the game is to be and how the team could accomplish that. Discussions and meetings are vital in that aspect. Because (almost) all individuals in the company were gamers, the discussions were made easier since all individuals have the same knowledge base concerning the final output.

With a consensus accomplished in the team, he felt it important to implant a state of confidence among members to make their own decisions and have the courage to do so. He thought this area needed improvement. It appeared to him that many individuals officially acknowledge their positions and responsibilities, but unofficially lack the courage to make day-to-day decisions and even less, critical decisions. “They would rather see these taken by someone higher up in the organization,” he said. By default, it would be he who would be the individual they turn to. These responses can be compared with the day-to-day observations made of his activities as shown in Table 2.

In practice, the CEO appeared to build his leadership on high visibility and participation in projects. Each day was started with a briefing for all personnel, and the rest of his day was spent either communicating through e-mail, walking around the office, or in meetings. It was just recently that he had come to peace with the realization that communicating through mail also constitutes working. Sorting 40-50 e-mails each day and reacting on about half of those has basically replaced all telephone communication. Walking the premises, he said, was a way of sorting through his thoughts and issues. It also gave him ample opportunities to interact with individuals in the production of the game under development. In this way, he kept abreast of what was going on and at the same time, he had the opportunity to make his comments on efforts—both in detail and on a strategic scale. Despite the fact that this participation sometimes created frustration in the team, he frequently had information that the team did not have—for instance information from the publisher, or the market. He also engaged in 3-4 meetings each day—not counting private discussions in his office. These meetings are mostly internal and with the different leads in the team. All in all, he felt

TABLE 2. Leadership in the Firm

Characteristic	Interview	Observation
Doing the right thing (Hayes, 2002, 109).	Establish the foundation to produce fun video games.	Development of approach for systematically producing new games. Setting up organization to carry out tasks. Incorporating within producer's umbrella.
Enabling people to contribute, solve problems, and learn from experience (Carnall, 2003, 148-149).	With a consensus accomplished in the team, it is important to implant confidence among members to make decisions and have the confidence to do so.	Each participant encouraged to evaluate bi-weekly builds and comment on them for next phase.
Strong resolve (Collins, 2001, 22-41).	Leadership is about the ability to lead a group of individuals toward a goal as effectively as possible, i.e., something measurable in accomplishments per man-hour.	Printout around offices saying, "What can I do today to improve the experience of the gamer?"
Getting right people on bus (Collins, 2001, 22-41).	Almost all individuals at firm are gamers, which establishes a common knowledge base and makes discussions easier.	When leaving the office at 7 P.M., there are many people working.
Growth beyond generating new ideas (Jelinek, 1979, xv).	Having hands-on experience in the past will increase trust in suggestions or decisions . . . (but) it is also a matter of creating consensus in the objectives and how team could accomplish that.	Manage the system, not people. Lunchtime conversations about CEO, "since he is the leader." CEO's intentions and wishes are represented in meetings when he is not present.

this constant communication was a part of the process of creating consensus in direction and in establishing the foundation for producing fun games.

Although the focus on this part of the study was on the CEO, there were two group observations (the "followship" portion of the dyad) that appeared pertinent to the description of leadership. First, there were semi-social situations such as lunches in which the observer participated. It seemed as if even when conversations about the company or leadership were not initiated, discussions would invariably drift in that direction. Many times these discussions were about the CEO because, "he was the leader." Second, his wishes were noted in meetings—even when he was not present. It might turn out that a decision might be made not to comply, but they were considered—even in his absence.

Two things might be noted in Table 2 with regard to these observations. First, there is a rather close association between what the CEO

said he thought was important and what he was observed doing. That should not be too surprising. In effect, he seemed to be describing what he thought important in his activities—Spender (1987, 76), for instance, suggests that because of the communication experiences of executives, these interviews should be reasonable (and therefore trusted) sources of information. On the other hand, it was sometimes difficult to categorize observations by content with regard to specific expectations from the literature. For instance, was the encouragement of participants to evaluate the bi-weekly builds an example of “enabling people,” or “getting the right people on the bus?” It is difficult to say, and this difficulty goes back to people who study leadership—they basically are writing about the same things and expressing it somewhat differently.

Nevertheless, it would seem that the CEO, as judged by both observation and self-reflection, was generally complying with literature reflections on “doing the right things” in the position. If we were to make a judgment on the progress that he had brought into making the firm successful, we would cite:

1. the security that was brought by putting the organization on sound financial footing,
2. the set up developed for developing games in a creative, but disciplined atmosphere. We would also add that he appeared to be managing the system, not the people, as would be recommended by the literature (cf. Collins, 2001). Further, the practice of hiring gamers (the right people) into the system was strategic and a big step in any success.
3. and, of course, the personal growth that had been shown in making the transition from a direct participant in the creative process to a “conductor” working through people (cf. Carnal, 2003).

DISCUSSION

There are two premises that might be discussed with regard to this paper and this journal:

1. Video games are services; and
2. “Product” development is a marketing function.

Technically speaking, video games cannot be considered “pure” services because they may have a physical component. This component is less conspicuous for the ones distributed online, but the ones made for

devoted hardware (Gameboys, X-Boxes, etc.) do come as discs. We thus fall back on Shostack's observation (1977) that offerings tend to be some combination of product and services. Although there may still be producers who are marketing their offerings as products, it would appear from the customers' perspective that these games have a heavy *service* component.³ Specifically, they are purchased for their *entertainment* features. As noted previously, this sector is one of the ten broad service categories developed by Fisk and Tansuhaj (1985). Naturally, our opinion as marketers is that they should be treated as services. That leaves the question of whether product development is a marketing function. Again, we refer to the classic literature on marketing that traditionally has held that product development is marketing oriented (cf. Kotler, 1967, 314-350; McCarthy, 1971, 357-370). Although product development, especially the type of technology push that is used in game development, tends to be an integrated function in a firm, it has clearly been associated with marketing for a long time. We, of course, support that association. If offerings are to be commercially successful, they must meet potential customers' wants and needs—a guiding marketing thought.

Given that this paper is suitable for this journal, then the question becomes, "What is its contribution?" The company that was observed was not a small one. At the time of observation it employed 29 persons in four departments (programming, art, audio and design) and was growing. There thus was a need for organized creativity, which could be institutionalized. The PDMA (2004) definitions suggest that creativity goes a step beyond innovation. This differentiation applies here. New games require a certain "surprise" or "astonishment" to develop fun and immersion for the gamers. Consequently, we believe that empirical information has been presented that relates to both

1. the institutionalizing of the necessary creative process associated with game development, and
2. some observations of the required transition in leadership that goes with this process.

We think that these two areas deserve attention because they are associated with the initial stage of successful organizational development (Greiner, 1972).

In his first text on marketing management Professor Kotler (1967, 246-259) devoted a chapter to the marketing of creativity. In that chapter, he discussed two types of creativity—*aesthetic creativity* and *problem-solving creativity* (249). "The first is exemplified by writers

and artists. Their creative products are extensions of their own personalities and embodiments of their personal responses to the nature of the world. The second is exemplified by scientists and businessmen. Their creative products are solutions to problems.” This background has apparent application in game development, which actually spans these two types of creativity,⁴ and it was the spanning of both types of creativity that was of interest in this study. In this regard, Kotler (1967, 249-250) cited an observation of Braybrooke and Lindblom that he felt described the creative process. In that text (Braybrooke & Lindblom, 1963, 37 ff, an attempt was made to develop a strategy for handling complex problems. In this development, it was noted, “*The problem* (i.e., the complex problem) is a cluster of interlocked problems with interdependent solutions” (54). . . . we cannot identify any agreed upon “objective” (56) . . . (thus) analysis requires the examination of possible objectives in the light of which . . . efforts can be justified (57).” Note the difference here. The process sets effort and then examines objectives instead of the usual, normative approach that sets objectives and then examines effort.

Our company had developed a heuristic that allowed it to systematically approach its opportunities while maintaining an element of control within the general context of a project orientation. Their approach was different, however, than generally prescribed by “project management.” Tasks could not be predetermined because of the uncertainty associated with the need for a creative input, and even the objective could only be defined qualitatively. Thus, stages could not be defined and therefore a “best-practice,” stage-gate approach (even with fuzzy gates, cf. Cooper, 1994) was not applicable. As a practical matter then, time was used as a determinant for judging progress, which at least ensured that the job was done.

This observation is not trivial in an *academic* sense. It helps to better understand a complex set of projects. The approach was interpreted in terms of the decision process suggested by Lindblom (1979, 1959) as an acceptable approach when ends and means were intertwined, and in fact, we have called such projects “Lindblomian projects” (Zackariasson et al., 2004). It would also be suggested that Simon’s (1996) reflections on evolutionary design would support this general approach insofar as

1. general goals serve as motivators (162-163), and
2. complex systems (in this case a creative development project) frequently are redundant, i.e., can be decomposed into simpler

systems (208-209)—in this case the company had found a means for doing that.

Further, by describing the creative *process*, one comes closer to understanding creativity itself (215).

Neither are the observations trivial in a *practical* sense. The efforts of the company could be compared with trying to “shoot skeet with a rifle.” It certainly is possible, but it is difficult to do consistently. Additionally, the skeet did not move predictably. Both technology and tastes were likely to change over the two-year development period, so a method had to be sensitive to both types of changes. The feedback from the bi-weekly builds seemed to do that. Commercial importance is associated with both the growth of the industry and the spread of the technology into other areas. In reflecting on the dynamic elements of business, Drucker (1954, 4) suggested that resources, instead of being a restriction, rather represent an opportunity and a tool to be used in control over nature. Perhaps there is no better example of use and leverage of resources than in the development of video games. This industry, which was virtually nonexistent before 1980, has grown to be box office size (Marriott, 2004). There, thus, has been opportunity in abundance for innovators to benefit from the use of resources in this industry. At the same time, the technology appears to be making its way into movies themselves (Economist, 2004) and slot machines (Woodyard, 2004). Some similar approach to project management would seem to be applicable in these instances.

By no means was leadership secondary in these operations. The CEO had, in fact, founded the firm and saw it through its early years. To this date he continues to play an important role not only in adhering to strategy, but participating in operations as well. In assessing “great” companies, Collins and his group (2001) asserted organizations that fell into his category followed a well-defined pattern. That is, they started with leadership, focused on “who” rather than “what,” assessed their situations and followed through in a disciplined manner, and employed technology as an accelerator. It would be premature to suggest the company that was studied was a great one. It would also be an oversight, however, not to note some of the practices followed were obviously good ones. That is, the organization did start and was built around leadership, placed a premium upon selecting “right” employees, and was disciplined in its approach. It might seem somewhat of an oxymoron to envision “gamers” hired as employees as being self-disciplined. Actually, some observations suggested they were rather free-spirited (Zackariasson,

2003, 36). If not disciplined then, they certainly seemed dedicated—dedicated to producing first line games. Whatever the case, the organization appeared quite successful in managing the system; the people indeed did seem to take care of themselves. Discipline thus was introduced and maintained by adhering to the system.

Further, as an IT firm, technology was intrinsic in its output. The leadership that was observed, in fact, was a sense-making approach that has been described as “cyborg leadership” (Zackariasson, 2003). In part, this description calls attention to the situational nature of leadership (cf. Carnall, 2003, 146-158). Cyborg leadership as we see it takes place in networks of human and nonhuman actors, and it is cyborg(ian) just because the boundaries between what is human and what is not becomes blurred. That is, a process existed in which people in the group and their equipment translated events in such a way as to accomplish common goals. Put another way, cyborg leadership is a metaphor that calls attention to the inseparability of the human and nonhuman in processes. The concept is mainly based on the theories of Latour (cf. 1999, 1992, 1987) and Akrich (1992), which have gained acceptance in Europe, and which we would suggest has a contribution in interpreting these observations.

To reflect on another point, one of the ideas implicit in the observations presented here is the necessary characteristic of “adaptability” that our development firm in this industry appeared to embrace. It has been suggested that flexibility, or the ability to adapt to change, is a desirable characteristic in a business sense (Anell & Wilson, 2000). Clearly, these concepts have antecedents as far as the behavioral theories of the firm are concerned. Adaptability was contained in the publications of March and Simon (1958) who suggested that organizations, as do individuals, adapt to uncertainties in timing and task. Cyert and March (1958) pictured situations in which firms adapted to their internal and external environments. In a more normative sense, Ansoff (1965, 55 ff) indicated that a hierarchy of flexibility be retained in formulating strategy and that a flexibility objective be developed with regard to both internal and external environment. Lest it be thought that these ideas were solely a product of a “Carnegie school,” Lindblom (1959) expounded on a process of “scientific muddling” in policy making appropriate for situations in which outcomes could not be determined prior to action, but could only be developed as activity occurred. Further, Drucker (1967), who by his own self-description developed some of his ideas through 20 years of consulting, asserted “since the one and only thing certain in human affairs is change, it (or-

ganizations) will not be capable of survival in a changed tomorrow.” Thus, the ability of this firm (or any firm) to adapt has a strong basis in management theory.

We have not talked much about strategy, which of course would be important in understanding the company’s success. With regard to understanding strategies, Lindblom (1979, 519) suggested that organizations might aspire to some seat-of-the pants plus studied strategies. We think this approach is applicable here. This pattern of activity seemed, in fact, consistent with the field observations and which Mintzberg (1999, 1982, 1978) described as “a pattern in a stream of decisions.” Put another way, it is in the midst of this muddling that a pattern of strategy is formed. A process of muddling, with its constant evaluation and adoption, does not suggest a process without any form of consistency or strategy. There may be a formal goal that the organization is striving for, and an intended strategy to reach that goal. Strategy then takes its starting point from these intentions, thus forming deliberate strategies. Although a pattern is formed within daily tasks and actions, this pattern not only consists of following the deliberate strategy but also an emergent strategy as well. This emergent strategy is a result of a constant interplay with three forces: (1) the environment, (2) the organization system, bureaucracy, and (3) leadership. This interaction results in a realized strategy, thus paraphrasing Mintzberg (1999) “strategy is consistency in behaviors, *whether or not intended*.”

Finally, there is the matter of generality of this research. The empirical material for this article was gathered using qualitative research and consisted of a single case study. Used correctly, this method has the potential to generate understanding of social phenomena by first-hand encounters of a researcher (Denzin & Lincoln, 2000, 3), so we think some understanding has been gained here. Of course results cannot be generalized, but they can serve as a basis for comparison in further work. Future work, naturally, would consist of cross-sectional studies of creativity management and leadership in similar firms. Additionally, we feel that a continued longitudinal study of the firm could be meaningful. It would be interesting to see if it follows Greiner’s (1972) model of growth through direction, delegation, coordination and collaboration, while facing crises of autonomy, control, and red tape—and continues to be creative.

CONCLUSION

An ethnographic study has been made of a Swedish video game development firm. Contrary to misconceptions that may exist for development within this industry, the organization, although adaptive, appeared to be quite business-like in its approach to its operations. In fact, observations could be associated with classic marketing/management precepts. Institutionalized creativity and leadership development were identified as important variables associated with its growth and success. It is felt that both academic and practical implications result from these observations. Both the growth of this industry and adoption of its technology into other areas suggest the study could be quite meaningful. Future work of both a cross-sectional and longitudinal nature would prove both interesting and useful in supporting observations.

NOTES

1. The concept of "video games" includes arcade games, PC games, and console games.
2. Turner (1999), in fact, suggests that in a typical project definition situation, there is some point in which both the objectives that will be achieved and the resources required in a project are vague and regarded with suspicion—a first stage in project definition is thus to quantify these parameters.
3. Here we are talking about the *core benefit* of the video game. There are also *augmented* services (instructions, warranty, after-sales service, etc.) offered with most games, which are certainly important, but not included in this discussion.
4. We employ the usual prerogative of substituting "opportunities" for "problems."


REFERENCES

- Aaker, D. and Day, G. 1990. *Marketing research, 4th ed.* New York: John Wiley & Sons, 174.
- Akrich, M. 1992. The description of technical objects, in *Shaping technology: building society*, W. E. Bijker and J. Law, eds., Boston: MIT Press, 205-224.
- Argyris, C. and Schon, D. 1978. *Organizational learning: a theory of action perspective*. Reading, MA: Addison-Wesley.
- Anell, B. and Wilson, T. 2000. The flexible firm and the flexible coworker. *Journal of Workplace Learning: Counselling Today*. 12-4. 165-170.
- Ansoff, I. 1965. *Corporate strategy*. New York: McGraw-Hill.
- Bartlett, C. and Ghoshal, S. 1991. *Managing across borders: The transnational solution*. Boston: Harvard Business School Press.

- Berger, P. and Luckmann, T. 1966. *The social construction of reality: a treatise in the sociology of knowledge*. New York: Penguin Books.
- Bonoma, T. 1985. Case research in marketing: Opportunities, problems, and a process. *Journal of Marketing Research*. 22-2. 199-208.
- Braybrooke, D. and Lindblom, C. 1963. *A strategy of decision*. London: The Free Press of Glencoe.
- Carlson, S. 1964. *Företagsledare i arbete*. Stockholm: Prisma.
- Carnall, C. 2003. *Managing change in organizations*. London: Prentice Hall.
- Collins, J. 2001. *Good to great*. New York: Harper Business.
- Cooper, R. 1994. Perspective—third generation new product processes. *Journal of Product Innovation Management*. 11. 3-14.
- Cyert, R. and March, J. 1958. *A behavioral theory of the firm*. Englewood-Cliffs, NJ: Prentice-Hall.
- Cyert, R., Simon, H. and Trow, D. 1956. Observations of a business decision. *Journal of Business*. 29. 237-248.
- DCF (2004) http://www.dfcint.com/game_article/sep04article.html
- Denzin, N. and Lincoln, Y. 2000. The discipline and practice of qualitative research. ed. Denzin, N. and Lincoln, Y. *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications.
- Drucker, P. 1967. *The effective executive*. New York: Harper Collins Books.
- Drucker, P. 1954. *The practice of management*. New York: Harper Collins Books.
- Dymek, M. and Rehn, A. 2003. *Polygonmakarna: Spelbranschens högteknologiska upplevelseekonomi*. Stockholm: Royal Institute of Technology, Department of Industrial Economics and Management.
- Economist* 2004. Deus ex machinima. www.economist.com/science/tq/displayStory.cfm?story_id=3171417 (September 16). Downloaded October 22, 2004.
- Fisk, R. P. and Tansuhaj, P. 1985. *Services marketing: An annotated bibliography*. Chicago: American Marketing Association.
- Glaser, B. and Strauss, A. 1967. *The discovery of grounded theory*. New York: Aldine de Gruutter.
- Green, P., Tull, D. and Albaum, G. 1988. *Research for marketing decisions, 5th ed.* London: Prentice-Hall International. 101-102.
- Greiner, L. 1972. Evolutions and revolutions as organizations grow. *Harvard Business Review*. 50. July-August. 37-46.
- Hayes, J. 2002. *The theory and practice of change management*. London: Palgrave.
- Jelinek, M. 1979. *Institutionalizing innovation: a study of organizational learning systems*. New York: Praeger Publishers.
- Jones, G. 1999. *Organizational theory, 2nd ed.* Reading, MA: Addison-Wesley Publishing Co.
- Kent, S. 2001. *Ultimate history of video games*. Rocklin, CA: Prima Publishing.
- Kotler, P. 2000. *Marketing management: The millennium edition*. Upper Saddle River, NJ: Prentice Hall.
- Kotler, P. 1967. *Marketing management: analysis, planning, and control*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Latour, B. 1999. *Pandora's hope: Essays on the reality of science studies*. Cambridge, MA: Harvard University Press.

- Latour, B. 1992. Where are the missing masses? The sociology of a few mundane artifacts, in *Shaping technology: Building society*, W. E. Bijker and J. Law, eds., Boston: MIT Press, 225-258.
- Latour, B. 1987. *Science in action*. London: Open University Press.
- Lawrence, P. and Lorsch, J. 1967. *Organization and environment*. Boston, MA: Harvard University Press.
- Lincoln, Y. and Guba, E. 1985. *Naturalistic inquiry*. Newbury Park, CA: Sage Publications.
- Lindblom, C. 1979. Still muddling, not yet through. *Public Administration Review*, November-December. 517-526.
- Lindblom, C. 1959. The science of "muddling through." *Public Administration Review*. 19. 79-88.
- March, J. and Simon, A. 1958. *Organizations*. New York: John Wiley and Sons.
- Marriott, M. 2004. Making high-tech play less work. *New York Times*. February 12.
- McCarthy, E. 1971. *Basic marketing, 4th ed*. Homewood, IL: Richard D. Irwin, Inc.
- Miles, M. and Huberman, M. 1994. *Qualitative data analysis: an expanded sourcebook*. Thousand Oaks, CA: Sage Publications.
- Mintzberg, H. et al. 1999. *The strategy process—revised European edition*. London: Prentice Hall.
- Mintzberg, H. 1978. Patterns in strategy formation. *Management Science*. 24-9. 934-948.
- Mintzberg, H. 1973. *The nature of managerial work*. Englewood-Cliffs, NJ: Prentice-Hall.
- Mintzberg, H. and Waters, J. 1982. Tracking strategy in an entrepreneurial firm. *Academy of Management Journal*. 25-3. 465-499.
- Nicholas, J. 2001. *Project management for business and technology: Principles and practice, 2nd ed*. Upper Saddle River, NJ: Prentice Hall.
- Patton, M. 1990. *Qualitative evaluation and research methods*. Newbury Park, CA: Sage Publications.
- Product Development & Management Association. 2004. *The PDMA glossary for new product development*. www.pdma.org/library/glossary.html.
- Robertsson, E. 2003. *Datorspelindustrin 2003*. www.spelplan.se/datorspelindustrin2003.pdf.
- Service annual survey*. 2003. Washington, DC: U.S. Census Bureau of U.S. Department of Commerce. Accessible on web—www.census.gov/svsd.
- Shostack, G. 1977. Breaking free from product marketing. *Journal of Marketing*. April. 73-80.
- Simon, H. 1996. *The sciences of the artificial, 3rd ed*. Cambridge, MA: The MIT Press.
- Spender, J.-C. 1987. *Industry recipes—an enquiry into the nature and sources of management judgement*. London: Basil Blackwell.
- Spradley, J. 1979. *The ethnographic interview*. Belmont: Wadsworth Group/Thomson Learning.
- Storey, D. 1998. *Understanding the small business sector*. London: International Thomson Business Press.
- Turner, J. 1999. *The handbook of project-based management, 2nd ed*. London: The McGraw-Hill Cos.

- Van Maanen, J. 1988. *Tales of the field: On writing ethnography*. Chicago: The University of Chicago Press.
- Vuorinen, I., Järvinen, R. and Lehtinen, U. 1998. Content and measurement of productivity in the service sector: A conceptual analysis with an illustrative case from the insurance business. *International Journal of Service Industry Management*. 9-4. 377-396.
- Woodyard, C. 2004. Casinos struggle to find way to deal in next generation. *USA Today Web Edition*. (November 7).
- Zackariasson, P. 2003. *Cyborg leadership: Including nonhuman actors in leadership*. Licentiate Thesis, Umeå School of Business and Economics, Department of Business Administration, Umeå University, Umeå, Sweden.
- Zackariasson, P., Blomquist, T. and Wilson, T. 2004. EPM in video game development: Life amongst Lindblomian Cyborgs. *Projects & Profits*. 4-11. 77-85.



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