

Using GST To Analyze the Collapse of AOL

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ABSTRACT

In 1972 Fremont E. Kast and James E. Rosenzweig published "General Systems Theory: Applications for Organization and Management" in the Academy of Management Journal. Over the more than thirty years since publication this article has become a classic. The writing is quite theoretical and abstract. This paper will take the highly conceptual, often abstruse, terminology used in the article and take the current status of AOL (America Online) to illustrate the mechanics articulated and thereby illustrate the applicability and relevance of the article today.

Keywords: *America Online, Case Study, Entropy, System Theory*

INTRODUCTION

en tro py ($\mu\text{n}^{\text{tr}}\dots\text{p}\text{f}$) *n. pl. en tro pies* **1.** *Symbol S* For a closed thermodynamic system, a quantitative measure of the amount of thermal energy not available to do work. **2.** A measure of the disorder or randomness in a closed system. **3.** A measure of the loss of

information in a transmitted message. **4.** A hypothetical tendency for all matter and energy in the universe to evolve toward a state of inert uniformity. **5.** Inevitable and steady deterioration of a system or society. [German *Entropie* Greek *en-* in; See **en-**² Greek *tropē* transformation; See **trep-** in Indo-European Roots.] (1992)

The crisis that exists in AOL is well documented (Bosavage, 2006). America Online emerged from an amalgam of early PC communication attempts, online gaming companies, and communications services which were founded, expanded, transformed and finally consolidated after six years of trial and error (1983-1989). Although “America Online” was initially a conglomerate of several separate online services the company became one in 1991 using a graphic interface over the DOS operating system. In 1991 it had about 150,000 users and ranked a distant third to CompuServe and Prodigy (Swisher, 1998, p.59-60). AOL went public in 1992 on NASDAQ offering 2 million shares at \$11.50 each (Swisher, p.62). From that point on the growth of the company was phenomenal. In 1993 it had 500,000 members, in 1994, one million members, by 1995 it had 4.5 million, by 1996, 7 million, and it hit 10 million members in the United States with one million additional abroad in 1997.

In 1997 AIM (America Online Instant Messenger) debuted. The AIM feature was enormously popular. This exponential growth continued. In 1998 AOL acquired CompuServe and Netscape and had 15 million subscribers. In 1999 it developed a partnership with Sun Microsystems and in 2001 AOL merged with Time Warner and was worth \$200 billion (Bosavage, 2006). AOL peaked in members with 34 million in 2002. By the 2Q of 2006 AOL had fewer than 17.7 million subscribers, is losing nearly 1 million a Quarter, and is worth only \$20 billion. (At last estimate, March 2007, there were 12 million U.S. subscribers.) (AP News) How can such a meteoric rise be so quickly reversed?

GENERAL SYSTEMS THEORY

Although Fremont E. Kast and James E. Rosenzweig wrote their seminal article “General Systems Theory: Applications for Organization and Management,” (Kast & Rosenzweig, 1972) more than thirty years ago, it remains a staple for Information Systems’ Theorists in their study of “Analysis and Design.” Kast and Rosenzweig give a masterful historical and theoretical presentation in a little more than ten short pages of text. It is the concept of “entropy,” which becomes the fundamental *tour de force*, enabling the authors to vivify the concept of system and its infra as well as supra interactions. Although “cybernetics” is mentioned explicitly only once in regard to the concept of “feedback,” its impact is latent throughout this paper. If “cybernetics” is indeed based on “Negative feedback” as is stated in the article (Kast & Rosenzweig, p. 16) and gets its etymology from the Greek *kybernetes* (steersman, governor, pilot, or rudder), one has to question where AOL went wrong and why it has maintained the wrong direction into near obsolescence. In the General Systems Theory (GST) article the authors argue that “... questions of organizational effectiveness must be concerned with at least three levels of analysis. The level of the environment, the level of the social organization as a system, and the level of the subsystems (human participants) within the organization” (Kast & Rosenzweig, p. 20). They go on to state “Perhaps much of our confusion and ambiguity concerning organizational effectiveness stems from our failure to clearly delineate the level of our analysis and even more important, our failure really to understand the relationships among these levels” (Kast & Rosenzweig, 20).

Nowhere are these “levels” and their “relationships” better articulated than in the works of Talcott Parsons. In an earlier paper the author

uses Parsons to explain a “simple” technological change in the adoption on the mouse and pointing devices in modern computing (Robak, 2001). It is appropriate to now expand this “Parsonian Perspective” to articulate the actions on “entropy” in the analysis of corporate demise. Parsons uses four levels of action separate yet interrelated. They are Cultural, Societal, Personality, and Organismic. Parsons explains the relations among the subsystems through the term “cybernetic hierarchy of control” (Turner & Maryanski, p. 80). “The systems vary in the amount of “informational control” and “energy” and each level is necessary for control and regulation as well as provision of energy for the next” (Robak, p. 37). The direction is opposite from that taken in the previous paper since “control of the mouse,” would emanate from the Organismic because the eye-hand coordination necessary for proper mouse movement is within this realm. In fact, the last two levels (Personality and Behavioral Organism) are realms within the actor; one concerning mental activity, the other physical, and these last two can be bifurcated in the mouse example. However, in the AOL example, the analysis is at the Macro level and the separation is unnecessary.

FUNCTIONAL REQUISITES

Control of the overall Macro System comes from the Cultural System and works its way to the Social System then to the Personality System. The “Functional requisites” are Adaptation; Integration; Goal Attainment; and Latency (also known as pattern maintenance). Turner and Maryanski (1979) provide a concise yet thorough description. “Each of these in turn, rests primarily within a given action system but there are interchanges which allow for the viability of all of the subsystems. The primary adaptive subsystem is the Organismic, the Personality deals with goal attainment, the Social System meets integrative problems, and the Cultural will deal with latency. It is

important to remember that the interchanges among these subsystems are what allow for total system efficacy.” (Robak, 2001). Table 1 presents functional requests.

Table 1. Description of Functional Requests

| Items | Description |
|-----------------|---|
| Adaptation | All action systems must seek resources from the environment, convert them into usable facilities, and then distribute them to the rest on the system. |
| Integration | All action systems must maintain coherent interrelationships among their constituent parts, and inhibit tendencies for abnormalities in the relations among the parts. |
| Goal Attainment | All action systems must set goals, establish priorities and allocate resources in order to achieve them. |
| Latency | All action systems must (a) generate use units that can fit into the system (the problem of “pattern maintenance”), and (b) reduce tensions within units of the system (“tension management”). (p. 75). |

Given these overall parameters, how did entropy prevail so as to bring a company with such tremendous momentum to a halt? An additional factor to consider is that of “Cultural Lag,” as is articulated by William Fielding Ogburn (Ogburn, 1922). Culture consists not only of social institutions and social ways, but also of the material objects existing and being generated by that society. Objects of technical relevance serve to exacerbate this phenomenon. Rarely was this truer than with the introduction of the Internet and the World Wide Web. Artifacts such as Internet Service Providers (ISPs) and web browsers were

introduced, then used, then taken for granted, in a very short period of time. People and companies that could properly capitalize on their usage would quickly gain a competitive edge.

CompuServe Information Service was first introduced in 1979 by an Ohio-based organization and it initially served investors allowing them to access stock quotes (current and historic) at a moment's notice. It was acquired by H&R block in 1980 and added features such as Electronic Mail, Online Shopping, and airline schedules and reservations. Its growth was slow but stable and peaked at 3 million users in 1995. Prodigy, a brainchild of IBM and Sears, Roebuck and Company in 1987, actually had the internet lead in 1993 with more than 40% of the online market, while at that time, America Online located in Vienna, Virginia was just really beginning with fewer than 500, 000 subscribers. Its phenomenal growth is described at the beginning of this paper and peaked in 2002 with 34 million members and along with its Time Warner merger was thought to be worth \$200 billion. Along the way it had acquired CompuServe (1998), Netscape, Global Network Navigator (1995), formed a partnership with Sun (for the purpose of Netscape sharing), and popularized Instant Messenger. Most of the early growth was under Steve Case who joined AOL in 1983 and rose to CEO in 1991 and Chairman in 1995, he resigned as Chairman in 2003.

AOL attracted most of its users when the primary mode of connection was "dial-up." It had a restrictive ("walled garden"), yet attractive approach to the Internet. The AOL approach was deemed to be "less technical" and therefore "easier" for those who were new to the internet; it also had "parental controls" which appealed to those adults who had children who would be using the internet. After the introduction of "instant messaging" those children would be hooked, being able to interact with their friends at all hours. As one can see the

early features of AOL fit the emerging internet culture quite well and indeed, this was the biggest reason for rapid adoption in the early years, as it quickly swept past CompuServe and Prodigy on its way to domination at the beginning of the new millennium. Despite some initial difficulty with inability to connect all of the users in this growth phase (in the early years of overuse and under capacity AOL was often referred to as “America On Hold!”), AOL persevered and its initial momentum carried it through. At the beginning of its growth phase, it carpet bombed all potential users with 3½ inch floppy disks sent through the mail or as magazine inserts, then AOL continued its carpet bombing with CD-ROMs when they became the medium of choice. This technique was both unique and positively received as the masses became more technologically savvy. Although this led to large-scale churning, the overall results worked well and subscribers increased by leaps and bounds. In order to minimize users leaving once they began to use AOL, they made it difficult to leave. When, as time passed, more and more subscribers decided that AOL was no longer the ISP that was needed; the courts agreed that this technique was unjust. Several million dollars were paid in penalties and costs by AOL as a settlement for this draconian practice. In addition, AOL was found to inflate its advertising revenues and this accounting misdeed resulted in payments of several billion dollars to settle a class-action suit in this regard.

How did this very successful venture turn so bad so quickly? The answer can best be summarized as entropy! A look at its inability to allow for interchanges at the cultural and social system levels as have been delineated by Talcott Parsons led to rapid deterioration within the Goal Attainment and Latency “functional requisites.” For entropy to be prevented there must be a proactive and open interchange among the primary system and all of its supra and infra contemporary systems as well as subsystems. The environment in today’s business

world is multifaceted and complex. Also, not to be ignored is the plexus of subsystems which exist within any system.

GROWTH

Kara Swisher (1998, p. xv) opens her book with a vignette which would position us at the personality system in the Parsonian “cybernetic hierarchy of control.” It is the personality level that has “power” as its “generalized medium of exchange” (Turner & Maryanski, p.82) and its base “functional requisite” is goal attainment. The vignette is entitled “Meet Mr. Bill,” and takes place in May of 1993. The opening paragraph reads “I can buy 20 percent of you, began Bill Gates in a most reasonable and even tone, a tone that was flatly matter-of-fact, neither angry nor blustery. The legendary co-founder of the software giant Microsoft Corporation rocked back and forth as he spoke; his hands touched lightly, forming a ten-fingered globe. The pose --- which would become much more famous over the next few years --- struck one person in the small stuffy room as vaguely comforting, as if Gates were a learned sage about to impart the ultimate wisdom to the thick-headed masses gathered before him.” (Swisher, p. xv). It continues “I can buy 20 percent of you or I can buy all of you, or I can go into this business myself and bury you.”

This statement is directed at Steve Case who was the CEO of AOL. At the time AOL had about one-half of a million subscribers and had yet to begin its ascent into the large company that it would become. The medium of power is obvious and this vignette sets to goals for both Case and Gates. (Gates does not buy any part of AOL but decides to put into motion the creation of MSN, his answer to AOL.) Initially, the goal for Gates is to “bury” AOL, and for Case the goal is simply survival. The next ten years tell us much. MSN, although marginally successful, does not “bury” AOL and indeed, AOL reaches its peak of

34 million members in 2002. In this instance the energy from the personality system flows to the social system (for all of the specific steps toward the organizational development of the enterprise) and then the energy from the enterprise flows to the cultural system which allows AOL to become the accepted and most powerful ISP and indeed, force which at this point in time structures the Internet as well as the World Wide Web.

DECLINE

The decline begins at the Cultural level. There were cultural changes occurring (some subtle, others open and overt) which, in most cases, were ignored or overlooked that led to the dismantling of the AOL empire. These changes, since they were inextricable intertwined with emerging technology, were classic examples of “Cultural Lag” (Ogburn) which in turn exacerbated the dismembering of AOL. First was the emergence of broadband. As cable providers and telephone companies (through DSL) began to provide high-speed internet connectivity, users began to drift away from “dial-up” connections. In addition, these high-speed providers offered their own free portals to the Internet, making belonging to a specific ISP less important. These portals were often supplied by other internet services such as Yahoo, Excite, or Google, which often allowed the end-user to configure and individualize his/her own home page, in an easy-to-do manner. By this time even those slow to adopt computers and internet utilization became much more comfortable with “low-cost” dial-up companies such as NetZero and EarthLink (in the late 1980s there were over 400 ISPs which increased to more than 7000 in the late 1990s (Cooper, 2002)). Thus, all of sudden there are numerous available internet portals along with a variety of prices and services. On the Cultural level the “killer application” appears which is the Internet. Individuals now think nothing of purchasing a Personal Computer if only to have access to

the Internet. For the majority of the population the computer and the Internet become both desired and necessary. This was a big cultural obstacle which within twenty years is taken for granted even by the most reluctant adopters.

With broadband, information is easy to get and it can be attained faster. This of course gave rise to early “search engines,” e.g., Archie, Gopher, etc., which facilitated the Internet as an information purveyor. Once the culture accepted the PC and then the Internet, the Social Systems sprang up to support, expedite, and simplify its usage even further. Other inventions such as the personal information manager and the cell phone made “text messaging” and instant communications by voice preferred to the “instant messaging” of AOL. In addition, with wireless communication everywhere the need for AOL in its traditional “dial-up” mode became superfluous. Mergers between two technological companies often result in dysfunction, with the corporate culture of one often prevailing to the expense of the other. The classic early example of this would be Sperry and Burroughs to form Unisys. Unisys tends to retain the corporate culture of Sperry while the Burroughs corporate culture was largely subsumed by Unisys. This phenomenon was exacerbated when AOL merged with Time Warner (two very different corporate cultures) in 2001. This resulted in disaster with AOL Time Warner reporting a \$99 Billion loss in 2002, the largest loss, at the time, ever reported by a company.

So, in addition to the entropy caused by AOL not paying careful attention to the occurrences in its own area (effectively the developments within and around the Internet were disregarded), AOL did not give proper consideration to the ramifications of a merger with Time Warner. It appears as if Steve Case became self-involved and lost focus in order to gain perceived power, a fact very well documented by Nina Munk in her book Fools Rush In (2004). The principals, Steve

Case, Jerry Levin, Ted Turner, and Dick Parsons, were motivated by power, their attention was on the Personality System and, for all practical purposes, the Social and Cultural Systems were neglected. In this situation the vital resource keeping the “General System” viable was information, itself. When the egos of the main participants of the “General System” made the Personality System the primary driving force of the enterprise to the exclusion of the other major phases the equilibrium of the entire system is disturbed and entropy rapidly deteriorates that system.

CONCLUSION

The classic GST article written by Fremont E. Kast and James E. Rosenzweig is dissected and employed in this paper to explain the radical rise of AOL from a start-up company to a \$200 billion power with 34 million members to an inconsequential enterprise which is struggling to remain in existence. There were two key concepts from the article which were reflected upon in order to expedite the explication: 1) the phenomenon of entropy; and, 2) the assessment of the three levels on analysis (environment, social organization as a system, and the level of subsystems (human participants) within the organization. In order to better apprehend and understand the systems, the theory of Talcott Parsons was applied to this assessment.

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