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Seven Deadly Factors Associated with Technology Company Failure

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ABSTRACT

Seven factors associated with technology company failure (or death) are described along with features that distinguish each factor. A company is commonly defined to have failed when it passes through a stage of insolvency and then an asset sale or a merger. It is well known that several critical factors can lead to a successful launch of a company – market timing, management experience, product differentiation, product quality, financing, sales execution, team compatibility, etc. High tech companies deal with additional risks at launch such as commercialization difficulties, team formation and technology lifespan. Little research has been done on identifying major factors that can lead to company failure once the company is launched and has reached the first stage of sustainability, for example, operational income is positive. While some business factors that are important at launch are also important during later stages of the company there are other forces, both internal and external, that can lead to company death. This paper proposes that there are at least seven basic factors associated with business failure that manifest themselves in technology based companies and an illustration is drawn for each type. The study herein can be useful to investors of technology and the entrepreneurs they employ in their never ending quest for profitable innovation.

Keywords: *Business Failure, Management of Technology, Insolvency of Technology Firms.*

1. DEFINITION OF BUSINESS FAILURE

There are many forms of terminating a business some of which are planned and expected, eg., terminations associated with seasonal products and services or services provided during an emergency or for a limited term, etc. However, the unplanned failure (or death) of a business can result in one or more "modes" or outcomes – dissolution, liquidation, bankruptcy, or target of an acquisition. Any one of these outcomes is equated to *firm failure* and not normal business termination. All these outcomes are actually unplanned to a degree since most businesses, especially those based on exploitation of technology, have every intention of being successful and making lots of money for their investors for an indefinite period of time. In the case where a company never enters a stage of insolvency and is acquired by a larger company, most investors will concede that such acquisition is simply a perfectly acceptable "exit strategy" and few, if any, will admit to a business "failure" since their investment is "whole" and has an opportunity for growth under the new structure. However, strictly speaking, such an unplanned exit is rarely part of a business plan when the initial investments were made and the above definition of firm failure applies.

Failure of a business inevitably brings about one or more undesirable effects – personnel layoffs or involuntary terminations, non-payment or delays of payment of debts, legal actions against the firm, hardship for customers requesting products or services (or in the worst case, loss of customers), predatory practices by competitors, poor management experience for executives, asset seizures by secured creditors, eviction notices by landlords and irate investors and shareholders. Hence, the number of and enormously negative effects of business failure provide motivation for managers to avoid such a calamity. (Salazar, 2006)

What usually brings about business death is the stage of insolvency or the threat of insolvency, defined in the accounting sense – the inability to pay actual, anticipated or perceived debts in a timely manner given the value of immediately liquid assets plus the value of any other assets that can be transformed into liquid assets in a short time frame, usually 90 days or less. Failure of the firm occurs when the actual unplanned outcome occurs – liquidation, asset or company sale or merger.

2. SEVEN DEADLY FACTORS OF BUSINESS FAILURE

Literature that relates to business failure has been surveyed and while no pretense is made that the research is exhaustive in the classification of factors that lead to unplanned business cessation, it is believed that the seven factors described herein are major ones. Certainly a company suffering the consequences of just one factor is at risk of failure so each factor described is deadly enough to cause business failure. Classifying each factor as internal or external can be difficult since there is sometimes interaction between external and internal forces associated with each factor. Financing a company, for example, depends on both the internal need for cash infusion and the external availability of capital.

2.1 Factor 1 – Management & Business Judgment

The number one factor leading to firm failure is associated with managerial errors in either operational judgment or strategy or the lack of experience and this ranking coincides with findings in a number of publications. (Salazar, 2006) The theme of Swiercz and Lydon (2002) is that the “critical factor in the long-term success of a new venture is the personal leadership ability of the entrepreneurial CEO.” Birley and Nikitari (1996) cite managerial inflexibility or autocratic nature as an important factor in business failure with eighty percent of all business failures attributed to managerial issues. Sheldon (1994) concluded that “internal factors requiring administrative action” was an important factor in business failure. In Jusko (2003) “leadership mistakes” was offered as an important factor leading to business failure. From a major auditing firm – Coopers and Lybrand – its newsletter in 1973 cited a Bank of America study that indicated “managerial incompetence or inexperience” as causing 90 percent of business failure. Although Gaskill et al (1993) conducted a study of the apparel and accessory companies, an area removed from the high tech industry, that study also concluded that “poor management skills” or “poor managerial functions” accounted for a major factor in business failures. In one particular article by Osborne (1993) an argument is made that “the horse is often more important than its rider in determining entrepreneurial success. Finally, Hayward (2001) indicates that poor management is the cause of one half of all UK bankruptcies.

Among many examples of managerial errors that can lead to failure, authors have cited those in Table 1.

Managerial Error	Impact	Comment
Lack of Planning	Resources not available to react to situation	This error is associated with managers who manage “on the fly.”
Reckless money management	Cash shortages can lead to angry employees, suppliers, etc.	The management of cash is a critical function at any company stage.
Poor Bookkeeping	This can lead to late payments to suppliers, erroneous invoices to customers, lack of inventory control, etc.	This symptom is a telltale sign of mismanagement.
Poor Relations with employees, suppliers, partners.	Difficulties in maintaining a uniform level of product quality or service level result from this error.	Lack of communications to key stakeholders is a precursor to this error.
Inattention to investor or bank concerns	Return on investment or security of loan are important concerns to investors/banks.	Being cut off from additional funding is usually the result from this error.
Ignore the Market & Customers	Rate of sales, product returns, product or service quality are valuable as performance feedback.	This error can take the form of poor market strategy, lack of sales training and little or no product management.

Wrongful Hires or Firings	Legal battles can ensue with poor handling of employment issues.	Such issues include sexual harassment, discrimination, unfair pay practices, etc.

Table 1 – Managerial Error Categorization

2.2 Factor 2 – Expansion and Diversification

A review of pertinent literature also reveals that the process of expansion or diversification places a high tech firm in a “high risk” situation. Sommers and Koc (1987) argue that a high tech company undergoes stress in every aspect of the organization when there is a high rate of change as in expansion or diversification. This may explain Lewis’ (2002) data that indicates incubation services assist in the survival of young companies undergoing growth. Expansion into international markets, for example, often requires substantial planning and possibly a different approach in sales, distribution, and servicing of products.

This factor applies to the case where a company is relatively stable but embarks on an ambitious product or market expansion. An example of this type of expansion is that of a company with a performing market segment decides to try marketing its products or services to a radically different market segment.

Expansion problems can surface from a merger with or an acquisition of another company especially if the target is a company addressing a different market, has redundant employees, has problems of its own, etc. Mergers and acquisitions can create stress in both employees and management and issues associated with this type of company expansion are often underestimated in expense, time and effort required to resolve them.

2.3 Factor 3 – Markets, Marketing & Sales

Schiffman (1998) notes that 80% of new businesses fail in the first two years and attributes lack of sales experience as a major factor to their demise. That comment gives credence to the nature of the business and its market environment as being an important factor in determining failure or success. Competition, availability of product, pricing, sales strategy all can be misjudged or mis-executed and thus lead to firm failure. An anticipated market may never develop or is actually too small to support business plan. Unanticipated or unfair competition can dry up sales despite efforts to counteract such attacks. Wrong market channels, unacceptable substitute products, ill-advised market positioning, customers too hard to reach are all examples of bad market strategy.

2.4 Factor 4 – Financing, Accounting & Equity

“Capital structure” was the top failure theme in the Birley and Nikitari (1996) study of companies. Funding a company’s business plan may depend on anticipated revenue but more often than not, external financing is required. Frequently, this means a dependency on equity investment proceeds, loans or bank lines of credit. Unrealistic business plans in which product costs or operational expenses are understated or misunderstood can lead to fatal financing issues. Entrepreneurs, inexperienced in finance, can underestimate expenses and costs of running a company and exacerbate the problem by resisting an equity dilution that could salvage the enterprise if done in a timely manner. Technology companies are especially susceptible to funding problems since their products and services are prone to sudden changes in content, features and component availability. Such unpredictability causes financial risk that must be dealt with expeditiously thus putting pressure on investors, banks and key suppliers.

2.5 Factor 5 – Technology & Intellectual Property

Unanticipated problems with technology ownership, development, testing or manufacturing in the form of unacceptable products or services can lead to delayed revenue realization or worse, product returns and quality issues. Technology is pervasive in that modern companies have come to depend on it in the storage and retrieval of company critical information, in its appropriate deployment in products or services, in its performance for customers or the environment, and in its effects on the health of customers. Drug companies are susceptible to latent effects of its technology-based products while computer glitches have led to failure for information-based

firms. Technology has become so pervasive in almost any company's operations since near-paralysis can set in if ERP or simple computer based transactions such as sales, inventory control, payroll or supplier payments are dysfunctional.
Often associated with technology is the company's ownership of the inherent intellectual property. Infringement lawsuits essentially shut down *Napster* when its business model was found to be dependent on trafficking copyrighted material.

2.6 Factor 6 – Personnel Issues, Ethics, Culture & Unions
Possibly the most difficult problem to solve in an organization is one dealing with personnel. Lack of rapport among important team members, between the CEO and the Board, between a manager and his/her direct reports or employee unions, etc., are among personnel issues that can lead to disastrous outcomes for a company. Fraud, integrity, embezzlement, immoral and unethical behavior on the part of key employees can sink a company. Often the "culture" of a company with personnel issues is one in which employees exhibit little or no loyalty to the firm, do not identify with stated strategic goals of the company and tend to exploit the firm instead of supporting it. *Enron* as a company is a notable and a recent victim of this factor. It has often been said that the most important asset of a company is its people. The origin of this observation was probably from someone who witnessed a positive contribution from an employee but personnel actions can also have a negative effect on the company's fate. Obviously managers can wield more negative power than lower level employees but danger can originate at any level. This factor is distinct from the "Management" factor described previously in that errors in managerial judgment need not be associated with organizational or personnel issues such as ethics or interpersonal relationships.

2.7 Factor 7 – Government Regulation & Intercession
New markets can be created and existing markets can be destroyed by governmental rules and regulations. Deregulation of the telephone industry in the early 1970's is an example of new market creation. Mandated warning labels on cigarettes among other associated regulations shut down or virtually killed many brands relatively quickly. (Miles, 1982)
This particular factor has manifested itself recently in the actions of the federal government under the Obama administration. Intercession by federal agencies have either salvaged failing companies or accelerated their death in the name of protecting the national economy.
Governmental intercession with untoward impact to the company can take several forms as listed in Table 2. (Porter, 1990)(Salazar, 2007)

Gov't Intercession	**Impact**	**Comment**
R&D Funding (eg., SBIR, see Lerner, 1999)	If terminated, R&D expense could become unmanageable	Technology companies can be especially vulnerable to the level of assistance.
Purchasing	Sales diminished	Government, due to its size, can become a dominant consumer.
Infrastructure	Sales, manufacturing, distribution could be dependent on governmental investment in roads, seaports, airports or utility access.	Normally, government investment of this type is long term and sizable but subject to budget oscillations.
Training & Education	Quality of personnel could be adversely affected without this aid.	Similar to infrastructure investments.
Tax Incentive	Business model may not be feasible without this assistance.	This type of aid is temporary and the company must reach a certain level of sales to achieve sustainability.
Trade Restrictions	Overseas competition could	Highly unpopular among free

	be kept at bay with this shield.	trade advocates. Lifting of restrictions can spell doom to those unprepared.

Table 2 Types of Governmental Intercession & Their Adverse Impact

7. CONCLUSION

In reviewing literature on the subject of firm failure it has been found that there are at least seven major factors that can lead to business termination. Each factor, if not addressed in a timely manner and appropriately can lead to a dangerous stage of the company – insolvency – and eventually to an unplanned termination such as liquidation (including asset sale) or merger.

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