

6-1-2009

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Recommended Citation

Purvis, Russell L.; Henry, Raymond M.; Leigh, William; and McCray, Gordon E. (2009) "Are You Managing an “Everest” Project? A Case Study Considering Issues for Project Managers Born from Tragedy," *Communications of the Association for Information Systems*: Vol. 24 , Article 44.
DOI: 10.17705/1CAIS.02444
Available at: <https://aisel.aisnet.org/cais/vol24/iss1/44>

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Communications of the Association for Information Systems

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Are You Managing an “Everest” Project? A Case Study Considering Issues for Project Managers Born from Tragedy

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Abstract:

There is a need for case studies that provide opportunities to learn the difficult nuances of project management that are difficult to effectively recreate within another's mind. This article offers survival skills in project management for the difficult existing business environment, particularly within information systems, of today. The case study considers the tragic expeditions in 1996 to scale the peak of Mount Everest. Things went terribly wrong, ending in the deadliest tragedy in the history of the mountain. The accounts of the survivors summarized within several books on the ordeal are used to consider the implications of project management issues that pervade such difficult projects – leadership styles, hubris, planning, communication, and constraints. Readers of this case study should consider effectively implementing practices that could prove to be the difference in surviving an “Everest” project.

Keywords: teaching case, project management, pedagogy

Editor's Note: A teaching note is available from the first author (rlpurvi@clemson.edu) to faculty requiring it who are listed in the AIS Faculty Directory.

Volume 24, Article 44, pp. 777-784, June 2009

The manuscript was received 10/17/2008 and was with the authors 1-1/2 months for 1 revision.

I. INTRODUCTION

“I hear and I forget. I see and I remember. I do and I understand.”

- Confucius 551-479 BC

To summit Mount Everest is one of the most coveted achievements in the realm of earth-bound exploration. In 1985, Texas businessman Dick Bass reached the summit of Everest at the relatively advanced age of 55. The adventuresome and the wealthy took notice, setting their sights on this exceptional and unique accomplishment. Commercial expedition companies surfaced to exploit the demand as there was a significant number of customers eager to pay the steep fee for the chance to summit the world’s highest peak.

More than a decade later on May 10th, 1996, eight climbers would die on the slopes of Everest, including two of the most highly regarded commercial mountaineering guides in the world: Rob Hall and Scott Fischer. Two more climbers would lose limbs to frost-bite. Later analysis would reveal that the year’s summit attempt had taken too long; time ran out for the unfortunate climbers trapped on the mountain in severe weather and waning light.

In contemporary business environments, time is often similarly highly constraining. Information systems projects in particular often exhibit characteristics of being “Everest projects” – those projects in which a combination of size and complexity leads to mistakes and failures that result in disaster. In the case of the Everest expedition of 1996, deteriorating weather, darkness, and dwindling oxygen plagued the climbers on their attempted descent. It has been noted that “climbing today is not only mainstream, it is a business, and with that comes the rising tendency for climbing decisions – objectives as well as tactical decisions on a climb – to be business decisions as well” [Boukreev 1997, pg. iv]. While not facing the same life or death consequences, the Everest tragedy provides an interesting context in which to develop an understanding of potentially devastating pitfalls that could apply equally well to major IS projects.

II. BACKGROUND

In the early morning of May 10th, 1996, the two commercial expeditions of Hall and Fischer began their summit bid on Mount Everest. New Zealander Rob Hall, 35 years old, headed the commercial expedition Adventure Consultants. Hall began taking expeditions to Everest in 1990, and had achieved summiting a record 39 climbers to the top of Everest. His company’s advertisements touted ‘one hundred percent success’ until May 1995, when he turned all of his clients back from their bid for the summit as deep snows at higher elevations had slowed their progress. Business pressure intensified as Scott Fischer had entered into the competitive commercial expedition market with his company Mountain Madness. Fischer had been successful in packaging expeditions to the remotest destinations in Africa, South America, and Asia, attracting customers from around the world.

In an effort to generate press, Fischer and his staff looked for opportunities to gain media attention. Outside, the leading outdoor-recreation magazine in the United States, wanted to sponsor Jon Krakauer as a climber on one of Fischer’s Everest expeditions. Krakauer was a Seattle-based journalist and best-selling author who would write a feature article on the boom in commercial expeditions to Mount Everest. Outside wanted a significant discount for Krakauer’s slot on Fischer’s team. At one point, Outside went to Rob Hall, who gave them a better deal and got Krakauer on his expedition. Mountain Madness was successful in signing on Sandy Pittman, a Contributing Editor to Allure and Conde Nast Traveler magazines. She also offered media exposure through an agreement with NBC interactive Media to do a daily feed to a web site [Boukreev 1997]. The media coverage represented an opportunity for both expedition companies but also raised the stakes, as success - or failure - would be reported around the world.

That year, more than 400 people eventually ended up at Everest Base Camp. One climber described the encampment as having all the appearances of “a circus, except there were more clowns in our tents.” By many accounts there were expeditions planning to summit Everest without the experience or guidance that would usually be found on a team [Boukreev 1997; Krakauer 1997].

The summit bid offered by the two commercial expeditions followed a standard routine of spending approximately one month acclimatizing to the thin air associated with high altitudes. Sherpas would progressively establish a series of four camps above Base Camp. Food, cooking fuel, and oxygen would be moved from camp to camp until

the requisite material was at 26,000 feet on the South Col and the climbers had been adequately acclimatized. From Camp IV, the final push would be made to the summit of Mount Everest.

While the two commercial expeditions of Rob Hall and Scott Fischer are the focus of this case study, three additional expeditions were either part of, or gave a unique perspective to, the tragedy that would unfold. Although they had promised not to make a summit bid on the same day as Hall and Fischer, Taiwanese and South African noncommercial expeditions also completed the final leg of the summit on May 10th. By all accounts, the Taiwanese and South African expeditions were high risk because both teams lacked qualifications and experience. The third party was the IMAX/IWERKS filming expedition led by David Brashears. Brashears, an exceptional climber, led this expedition to summit Mount Everest and complete filming the journey on May 9th. Having concerns about the weather and the unusually large group of climber's planning to summit on May 10th, his party decided to descend and summit later. He offers an expert's perspective from outside the expeditions that were to summit on May 10th.

III. PROBLEMS SUGGESTED BY PROJECT MANAGEMENT

Project management has emerged as a core competence within business domains, particularly information systems. It offers a useful lens through which to evaluate how such endeavors can meet the competing demands of time, cost, quality and scope while balancing the needs and expectations of various stakeholders. Five issues consistently surface as the most significant from a project management perspective – leadership styles, hubris, planning, communication, and constraints. Although the challenges in these domains are discussed herein separately, they are not independent. Rather, they overlap, interact and compound with each other in complicated ways. And while these interactions are not discussed within the case, it is important for the reader to consider the relationships and their impact on the project.

This case study utilizes “A Guide to the Project Management Body of Knowledge” (PMBOK® Guide) developed by the Project Management Institute [Institute 1996; Institute 2000; Institute 2004] as a framework for contemplating the issues raised by the doomed Everest expeditions of 1996. The PMBOK provides a framework of processes that are generally recognized as good practice for project management [Institute 2004]. It is the foundation for the project management professional certification and an ANSI and ISO standard. In addition to the PMBOK, the Theory of Constraints (TOC) [Goldratt 1987;Goldratt 1997] will be utilized to offer insights and learning opportunities into the Mount Everest tragedy.

Issue 1: Leadership styles

Hall and Fischer made for an interesting contrast in leadership styles. Brashears notes that Fischer's “leadership style exhibited great faith in the human spirit as if to say to clients, I'm not going to hold your hand all the way, I'm not going to map it out for you, there's something in this experience for you to sort out on your own” [Brashears 2000, pg. 240]. This was in stark contrast to the rule-based approach taken by Rob Hall. Boukreev and DeWalt summarize the differences, stating:

The difference between Hall's and Fischer's philosophies of guiding are emblematic of an ongoing debate between practitioners in the adventure travel industry. The camps of belief can be roughly divided between the 'situationalists' (Scott's style) and the 'legalists,' (Rob' style). The situationalists argue that in leading a risky adventure, no rules can adequately cover every situation that may arise, and they argue that rules on some occasions should be subordinated to unique demands that present themselves. The legalists, believing that rules can substantially reduce the possibility of bad decisions being made, ask that personal freedom take a backseat. [Boukreev 1997, pg. 155]

As a legalist, Hall tightly controlled the climb and left little to the determination of the clients. For example, acclimatization was completed as a group. All members were asked to stick together as they went from camp to camp the first several weeks. As a situationalist, Fischer felt acclimatization was unique to each climber. “Even though Boukreev and Fischer hoped to move the clients through it together, they understood there would be varying response to their recommended routine and tried to build some flexibility into the regimen” [Boukreev 1997, pg. 72]. Boukreev explains further, “personally, I looked with concern upon the closely regimented expeditions where clients performed as tin soldiers. Given my history as a trainer and coach in cross-country skiing and mountaineering, I felt it was important to encourage independent action” [Boukreev 1997, pg. 106].

Hall's leadership style and mandated rules became constraints just as potent as any physical one. This proved costly to all the expeditions on the mountain that fateful day; their summit bids became intertwined and impacted the climb durations for everyone. Krakauer explains, “Hall had instructed the climbers for the first half of the summit day not to put any more than 100 meters between themselves until they reached the Balcony, a cleft at the base of the Southeast Ridge at about 8,500 meters” [Boukreev 1997, pg. 154; Krakauer 1997, pg. 174]. Krakauer, accustomed

to independence of action as a climber, was “frustrated at having his decisions tied to the lowest common denominators of the climb” [Krakauer 1997, pg. 154], but he felt his position as client forced him to give up his personal commitment to self-reliance and independent decision-making, to become a “tin soldier.” In his book, Krakauer writes “passivity on the part of the clients has thus become encouraged throughout the expedition” [Krakauer 1997, pg. 176]. Accordingly, Krakauer and Ang Dorje (Sherpa), after stop-and-go progress that had cost them more than an hour, reached the Balcony, stopped and sat down on their backpacks not advancing any higher. Were it not for Hall’s rigid rules, they would have been preparing the fixed ropes and climbing towards the summit.

Ironically, Hall hedged at setting a specific turnaround time for the summit attempt – a proven critical success factor in extreme mountaineering. Whether or not the summit has been achieved, failure to begin a descent at or before a predetermined turnaround time has led to multiple deaths on the world’s tallest peaks. Brashears commented “It was none of our business what Hall and Fischer had decreed as their turnaround time, but we knew they would have one and that it was probably one or two o’clock. That would leave only a window of 30 – 90 minutes for their clients to finish the climb ... but, at three p.m. we looked up and could see climbers still forging across the traverse to the Hillary Step. Ed (another climbing expert) and I were alarmed ... Before our eyes, we could see people willfully giving away their small margin of safety for success on the summit. What they were sacrificing was the ability to return to Camp IV in the safety of daylight. It can’t be overstated how light provides an asylum up there. Light gives you more than just vision and the ability to see your path or the promise of a camp down below. It fundamentally binds your morale; that’s what they were giving away. Night creates a different mountain. Unless you’ve managed to memorize the labyrinth, really gathered the landmarks into your mind, you can be lost in an instant” [Brashears 2000, pg. 261].

- | Issue 1: Questions to Consider | |
|--------------------------------|--|
| 1. | What are the advantages and disadvantages of the different leadership styles considering this situation? |
| 2. | Considering the use of formal and informal control mechanisms, would one leadership style be more prone to use formal versus informal? |
| 3. | By which style and control mechanisms would you rather be managed? |

Issue 2: Hubris

Hubris is exaggerated pride, self-confidence, or arrogance, frequently resulting in retribution. As he climbed the mountain after the catastrophe, Brashears recounts seeing the corpse of Rob Hall: “mingled with my sorrow I must confess, were feelings of anger toward Rob ... I knew in my bones that the mistakes made May 10th could have been avoided, that hubris had likely doomed Rob and his party. Of all the guides, Rob had been most outspoken about his prowess, and the most proprietary about the mountain. He had sometimes acted as if he were a part-owner of Everest, an attitude I found disturbing” [Brashears 2000, pg. 27].

Other accounts further suggest hubris in both leaders. For example, Gammelgard, a client of the Mountain Madness expedition, thought people had an unrealistic image of Fischer that he felt he had to maintain. She offers, “It was really shocking to see in Pakistan that the people who were on the support trek, the only thing they could see was their image of a hero. They just couldn’t see the human being. They just absolutely were totally blind to the reality. They had that picture of what a hero should be, and they addressed him like that, but they couldn’t see him” [Boukreev 1997, pg. 32].

Jon Krakauer confirmed the impact of hubris when he reflected on the essential reasons for the tragedy, noting that “hubris probably had something to do with it. Hall had become so adept at running climbers of all abilities up and down Everest that he got a little cocky, perhaps. He’d bragged on more than one occasion that he could get almost any reasonably fit person to the summit, and his record seemed to support this. He’d also demonstrated a remarkable ability to prevail over adversity...” [Krakauer 1997, pg. 284-285].

Certainly time had as much to do with the tragedy as the weather, and ignoring the clock cannot be passed off as an act of God. Delays at critical points in the ascent were foreseeable and eminently preventable. Predetermined turnaround times were egregiously ignored. Extending the turnaround times may have been influenced to some degree by the rivalry between Fischer and Hall. Fischer had never guided Everest before 1996. From a business perspective, there was tremendous pressure on Fischer to be successful in that climbing season. He was exceedingly motivated to get clients to the summit - especially a celebrity client like Sandy Hill Pittman.

Likewise, since he had failed to get any clients to the summit of Everest in 1995, it would have been bad for Hall’s business if he failed again in 1996 – especially if Fischer succeeded. “Fischer had a charismatic personality, and that charisma had been aggressively marketed. Fischer was trying very hard to be viewed as the premier mountaineering guide and Hall knew it. Under the circumstances, the prospect of turning his clients around while

his rival's clients were pushing toward the summit may have been sufficiently distasteful to cloud Hall's judgment" [Krakauer 1997, pg. 284-285].

Issue 2: Questions to Consider

1. Many of the climbing guides subordinate to Fischer and Hall were new to the teams. Did this have an impact?
2. What actions could have been taken to reduce the impact of hubris?

Issue 3: Planning and considering risk

"If expeditions are not adequately provisioned when the time for their summit bid arrives, they might as well have never traveled to the mountain" [Boukreev 1997, pg. 3]. Indeed, there is a multitude of details associated with the logistics of moving that much equipment, food, materials and people in a remote part of the world. A key part of planning for summit attempts concerns ensuring adequate oxygen supplies for the summit bid. Atmospheric oxygen levels are so low at and above Camp IV that the majority of climbers use bottled oxygen to sustain brain and bodily functions and, ultimately, to survive.

Given how they intended to use it, the quantity of oxygen available to the Mountain Madness expedition at Camp IV was minimal. The oxygen consumption/use calculations upon which Fischer based his oxygen plan was in part based upon advice from his supplier Henry Todd. Todd estimated that each of his canisters, if consumed at his suggested flow rate of 2 to 2.5 liters/minute, would last for 6 hours. "Two should last you for twelve hours, and that 12 hours should take you to the summit (from Camp IV) and then back down to pick up a third bottle at the South Summit. On paper the plan looked bulletproof" [Boukreev 1997, pg. 151]. However, this assumed everything would proceed according to plan. It further assumed that no additional oxygen would be needed for those stricken with HACE (High Altitude Cerebral Edema, or swelling of the brain, a condition associated with oxygen depletion), for those older climbers who require more oxygen to keep warm, or for any other unforeseen event or condition that could slow the pace of climbing.

Issue 3: Questions to Consider

1. Consider this issue and a) identify risks, b) prioritize these risks, and c) come up with appropriate risk responses for those with potentially high impact and high probability.
2. One option for addressing risk is to place buffer or contingency at the end of the phase or project. Would this have helped?
3. The clientele had paid significant sums of money to summit Everest. Should they have been made aware of the assumptions made in the plan to summit? Whose risk was it?

Issue 4: Communications

An essential process within any project is effective and efficient communication. Unfortunately, there were serious communication breakdowns during the 1996 expeditions, especially within the *Mountain Madness* team. In his recount of the tragedy, Boukreev admitted, "communication was a huge problem ... a problem I failed to completely appreciate until it was too late" [Boukreev 1997, pg. 267].

Concerning communication technology, "...there were equipment issues, and one concern that arose early was that of the two-way radios Fischer had brought for use by the expedition. A critical item in an expedition inventory, a radio creates a link between Base Camp and climbers as they wind their way to the summit and provides a conduit for information on developing problems, emergencies, equipment needs, the weather, and medical matters. An experienced climber considers the state of his expedition's communications capabilities, and Martin Adams did. "These days you have these great little radios that weigh next to nothing that every one of the climbers should have, because the cost of carrying them is zero. They're easy to use - two buttons - it's black and white. And Scott pulls out a few of these old radios with ten channels and I said, 'These are the radios we're using?' And he says to me, 'Yeah, this is all I got.' The radios, in my opinion, were a joke. It was a major misstep for him to go over there with these antiquated models" [Boukreev 1997, pg. 70].

The lack of communication proved costly as none of the guides could communicate with Fischer as the group climbed the mountain. Boukreev explains, "I was on the summit about an hour. I had no radio, nor did Neal, so neither of us knew what was going on below. I suspected there might be trouble at the Hillary Step, and I felt I should go down. At about 2:00 PM, maybe slightly later, I moved away from the summit..." [Boukreev 1997, pg. 173]. However, his skills might have been better utilized ushering clients up the summit.



Another communication barrier was the differences in language and culture. Boukreev was Russian and felt stymied by the language differences. As he noted, "... my English left much to be desired and I couldn't always freely answer their questions and vice versa. I couldn't take the initiative and advise something practical like a guide is supposed to explain the importance of my advice" [Boukreev 1997, pg. 82].

Finally, poor communication hindered decision making and had guides questioning one another's authority and roles on the mountain. Both expeditions were depending on the guide services of men who had never climbed Everest. This limited experience made them uncomfortable offering opinions or challenging decisions that were made. The *Mountain Madness* expedition had retained the services of Boukreev, who possessed tremendous depth of experience but who also felt shut out of the decision making process. Boukreev explained, "I wanted very much for my feelings to be heard, but it had become increasingly clear to me that Scott did not look upon my advice in the same way as he did Rob Hall's ... My voice was not as authoritative as I would have liked, so I tried not to be argumentative, choosing instead to downplay my intuitions" [Boukreev 1997, pg. 140].

Issue 4: Questions to Consider

1. Considering the importance of the communication technology, how could such a decision be made?
2. Considering this issue, are there any tools and techniques that could have mitigated the communication issues?
3. Boukreev was hired because he was one of the best climbers in the world. Was that sufficient to make the hiring decision? If not, what else should have been considered?

Issue 5: Constraints

The physical constraints presented by Mount Everest pose serious challenges at every turn when making a summit bid. "Expeditions now arrive and find themselves in immediate competition for such basic resources as flat tent sites. In 1996 there were ten Everest expeditions needing space on a thin slice of the Khumbu Glacier" [Breashears 2000, pg. 231]. Negotiations by Hall and Fischer with the other expeditions provided Adventure Consultants and Mountain Madness the opportunity to summit on their preferred date of May 10th. Concerned about the size of their parties, the two expeditions wanted to summit alone. The Taiwanese and South African expeditions, however, wanted to draft on the expertise of the commercial expeditions and planned to summit on May 10th also, even though they had agreed not to do this in earlier negotiations.

The physical constraints of the climb ultimately would manifest in three important ways. First, the sheer limitations of the mountain strain every capacity with so many people attempting to summit. Breashears was above the two commercial expeditions when they were making their way to Camp IV. As Breashears was descending because of deteriorating weather, he noted, "We all agreed – none of us had ever seen so many people hunched so close together, hanging from the same ropes ... I could imagine the traffic jam that would ensue. People going up would meet people going down, all trying to use the same rope. Each time, someone would have to unclip to get around someone else, then clip in again – time-consuming and dangerous work. I knew from experience that there isn't strength in numbers on Everest" [Breashears 2000, pgs. 252 and 256].

A second constraint was the need for fixed ropes above Camp IV. The ropes were not in place as planned when the expedition arrived, causing inordinate delays in the summit bid. Consequently, the climbers experienced a traffic jam at the base of the Hillary Step when a dozen or more climbers came to a standstill waiting in queue as the ropes were anchored and then used by the assembled climbers. A single rope was placed, causing delays and dangerous work, just as envisioned by Breashears. In his popular book, Jon Krakauer would describe the sheer horror of standing at the top of the Hillary Step while his oxygen ran out, unable to descend because of the other climbers coming up the fixed rope for over an hour.

The third physical constraint surfaced as the two teams of differing abilities intermingled. The colloquialism "a team is only as strong as the weakest member" offers significant insights into the compounding effect of the teams on Everest that fateful climb. This was further exacerbated as the commercial expeditions, with their own limitations, were joined by the even weaker Taiwanese and South African expeditions. This lethal mixture of strong and weak talent began taking its considerable toll when a member of the Taiwanese expedition used the bathroom without wearing ice crampons, slipped and slid into a deep crevasse. Sherpas from the two commercial expeditions assisted the efforts to extricate the climber [Boukreev 1997]. Efforts to save his life consumed the limited reserve of the Sherpas' physical strength and dwindling oxygen supply. Ultimately the climber perished.

Commingling stronger with weaker climbers took an additional toll. Boukreev, an experienced climber and guide for the Mountain Madness expedition, worried about teaming up with the slower, less qualified Adventure Consultants expedition. He felt that joining forces with the slower, less able team would hinder their climb [Boukreev 1997]. His

concerns proved prophetic. Rob Hall's slower team began first with a thirty minute head start. Within two or three hours, the Mountain Madness climbers began to overtake Rob's climbers, and soon the teams were thoroughly fused along with three members of the Taiwanese Expedition. Rob's clients in front of the faster climbers slowed the faster climbers as they couldn't pass. This squandered precious time and oxygen and added to the traffic jam high on the world's tallest mountain.

Issue 5: Questions to Consider

1. Which of these physical constraints was the most constricting?
2. Give solutions to each of these constraints.

IV. CONCLUSION

In considering the terrible personal tragedies that unfolded on Mount Everest in May 1996, we have sought to evaluate the role of project management in such endeavors. We believe that the poignancy of the Everest tragedies brings into sharp focus some important, though often difficult to discern, critical success factors on highly challenging projects. Indeed, many corporate projects, while perhaps not exposing people to a life threatening situation, might reasonably be termed "Everest" projects for their important similarities to what happened on the mountain in 1996. Still, Jon Krakauer offers an important warning :

Analyzing what went wrong on Everest is a useful enough enterprise; it might conceivably prevent some deaths down the road. But to believe that dissecting the tragic events of 1996 in minute detail will actually reduce the future death rate in any meaningful way is wishful thinking. The urge to catalog the myriad of blunders in order to 'learn from the mistakes' is for the most part an exercise in denial and self-deception. If you can convince yourself that Rob Hall died because he made a string of stupid errors and that you are too clever to repeat those same errors, it makes it easier for you to attempt Everest in the face of some rather compelling evidence that doing so is injudicious. [Krakauer 1997, pg. 284-285]

In conclusion, to fall into the trap Krakauer details above shows that very little about the five issues addressed was actually understood on Everest in May 1996. How might history have been different had they been?

Conclusion: Questions to Consider

1. Which of these issues was the most important and should have been considered first?
2. How did these issues interplay: leadership styles, hubris, planning, communication, and constraints?
3. Can you eliminate or mitigate any one of these in isolation? Do the issues need to be considered together?

REFERENCES

- Boukreev, A. and G. W. DeWalt (1997). *The Climb Tragic Ambitions on Everest*, New York, NY, St. Martin's Paperbacks.
- Breashears, D. (2000). *High Exposure*, New York, NY, Simon & Schuster.
- Institute, P. M. (1996). *A Guide to the Project Management Body of Knowledge*.
- Institute, P. M. (2000). *A Guide to the Project Management Body of Knowledge, 2nd Edition*.
- Institute, P. M. (2004). *A Guide to the Project Management Body of Knowledge, 3rd Edition*.
- Krakauer, J. (1997). *Into Thin Air*, New York, NY, Anchor Books.

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