PATENT

BY : JYOTI THAKUR

Contents

1. Meaning
2. Objectives
3. Importance
4. Advantages &Disadvantages
5. Impact on business
6. Examples

Meaning

A patent is a legal right granted by a government to an inventor or assignee, providing exclusive rights to the inventor for a specified period(20 years). It allows the inventor to prevent others from making, using, selling, or importing the patented invention without their permission.

Objectives

Protecting inventions

The primary objective of patents is to safeguard new inventions and provide investors with exclusive rights to prevent unauthorized use.

Encouraging innovation

Patents incentivize investors to create new and valuable inventions by offering them a limited monopoly over their ideas.

Objectives

Promoting disclosure

Patents encourage inventors to disclose their inventions to the public, contributing to the dissemination of knowledge and advancements in various fields.

Fostering economic growth

By protecting intellectual property, patents contribute to economic growth by promoting innovation, attracting investment, and creating job opportunities.

Importance

1. PROTECTION OF INTELLECTUAL PROPERTY

Provide legal protection for their ideas, encourage them to disclose their inventions without fear of being copied or stolen.

2. INCENTIVE FOR INNOVATION

Patents incentivize investors and businesses to invest in R&D, to get a chance to recoup their investment and profit from their inventions.

3. TECHNOLOGICAL ADVANCEMENT

Promote the sharing of knowledge and encourage innovation.

4. MARKET ADVANTAGE

Gives investors a competitive edge by providing others from using their invention.

5. LICENSING AND COMMERCIALIZATION OPPORTUNITIES

Patents can be licensed or sold, providing investors with additional revenue streams to collaborate with other businesses.

Advantages

1. Exclusive Rights
2. Competitive Edge
3. Market Opportunities
4. Licensing and Revenue Generation
5. Strategic Asset

Disadvantages

1. Cost and Time
2. Disclosure of Information
3. Limited Duration
4. Patent Infringement Risk
5. Innovation Constraints

Impact on Business

COMPETITIVE ADVANTAGE

Provide businesses with a competitive edge by protecting their innovative products.

MARKET DOMINANCE

With exclusive rights to a patented invention, a business can establish a dominant market position.

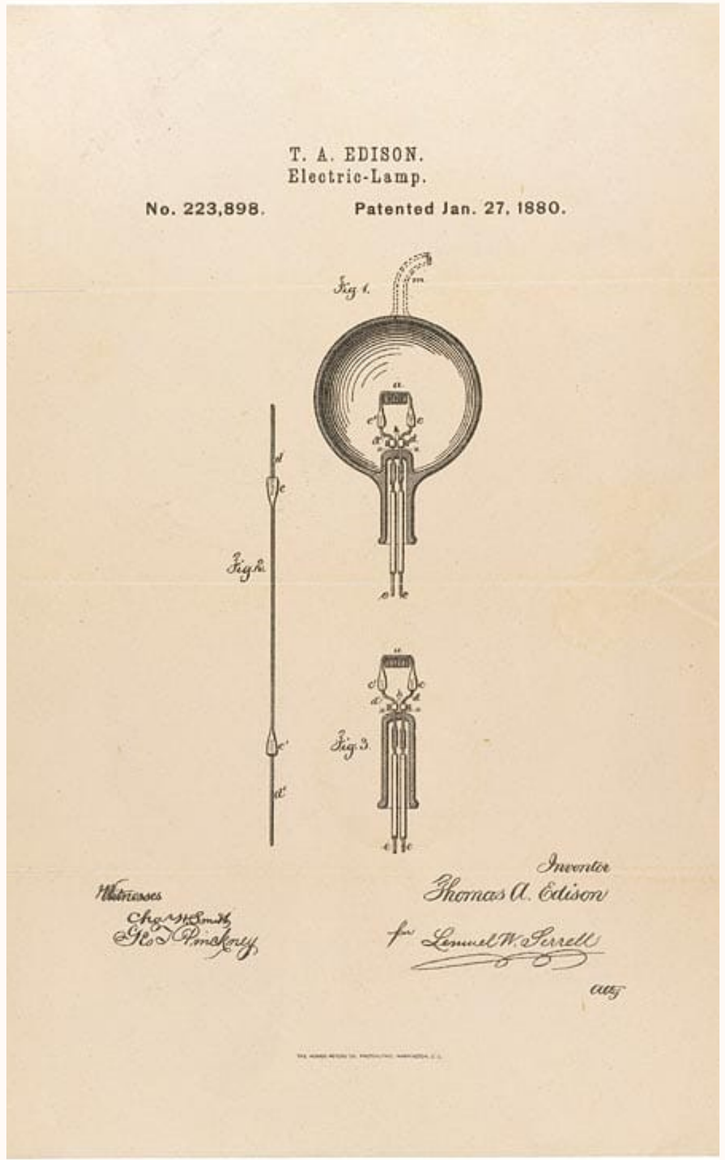
REVENUE GENERATION

Patents can be monetized through licensing or selling, providing businesses with additional revenue streams.

LEGAL PROTECTION

Patents offer legal protection against infringement, enabling businesses to enforce their exclusive rights.

Examples



T. A. EDISON.
Electric-Lamp.

No. 223,898. Patented Jan. 27, 1880.

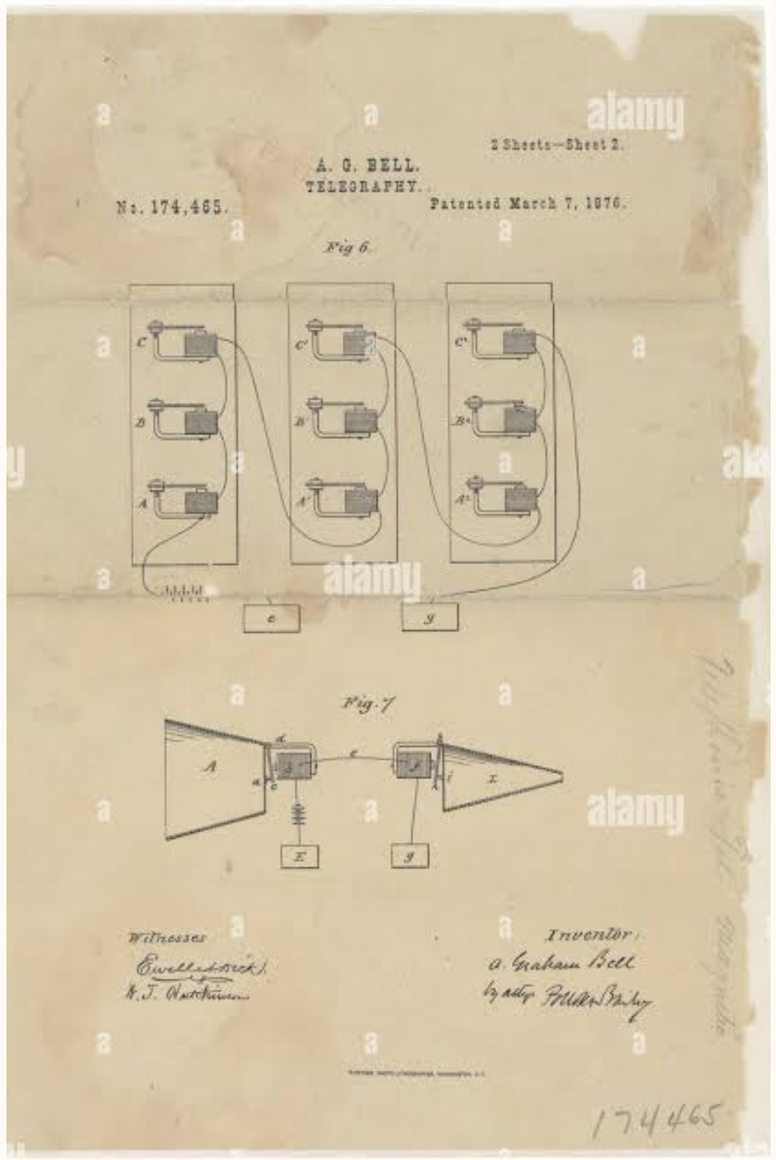
Fig 1.

Fig 2.

Fig 3.

Witnesses
Chas. H. Smith
Geo. P. Pinckney

Inventor
Thomas A. Edison
for Samuel W. Terrell
atty



2 Sheets—Sheet 2.

A. G. BELL.
TELEGRAPHY.

No. 174,465. Patented March 7, 1876.

Fig 6.

Fig 7.

Witnesses
Ewell & Stock
H. J. Hutchinson

Inventor:
A. Graham Bell
by his atty Pollok & Bailey

174465

Examples

THE LIGHTBULB

Thomas Edison's patent for the electric bulb, issues in 1878, allowed him to control the production and distribution of this revolutionary invention.

THE TELEPHONE

Alexander Graham Bell's patent for the telephone, granted in 1876, protected his invention.

Thank you

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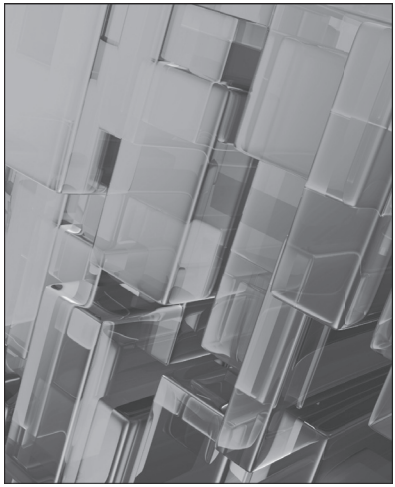
Part 7

PROJECT PLANNING

Perhaps the most important phase of any project is planning. If the planning is performed effectively and the workers participate in the development of the plan, the chances of success are greatly enhanced. Yet even with the best-prepared plan, changes will occur.

Good project planning begins with a definition of the requirements, such as the statement of work, work breakdown structure, specifications, timing, and spending curve. Effective planning also assumes that the project manager understands the business case and the accompanying assumptions and constraints.



Greyson Corporation

Greyson Corporation was formed in 1970 by three scientists from the University of California. The major purpose of the company was research and development for advanced military weaponry. Following World War II, Greyson became a leader in the field of research and development. By the mid-1980s, Greyson employed over 200 scientists and engineers.

The fact that Greyson handled only research and development (R&D) contracts was advantageous. First of all, all of the scientists and engineers were dedicated to R&D activities; they did not have to share their loyalties with production programs. Second, a strong functional organization was established. The project management function was the responsibility of the functional manager whose department would perform the majority of the work. Working relationships between departments were excellent.

By the late 1980s, Greyson was under new management. Almost all R&D programs called for establishment of qualification and production planning. As a result, Greyson decided to enter into the production of military weapons as well and capture some of the windfall profits of the production market. This required a major reorganization from a functional to a matrix structure. Personnel problems occurred, but none that proved a major catastrophe.

In 1994, Greyson entered into the aerospace market with the acquisition of a subcontract for the propulsion unit of the Hercules missile. The contract was projected at $200 million over a five-year period, with excellent possibilities for

follow-on work. Between 1994 and 1998, Greyson developed a competent technical staff composed mainly of young, untested college graduates. The majority of the original employees who were still there were in managerial positions. Greyson never had any layoffs. In addition, Greyson had excellent career development programs for almost all employees.

Between 1997 and 2001, the Department of Defense procurement for new weapons systems was on the decline. Greyson relied heavily on their two major production programs, Hercules and Condor II, both of which gave great promise for continued procurement. Greyson also had some 30hirty smaller R&D contracts as well as two smaller production contracts for hand weapons.

Because R&D money was becoming scarce, Greyson's management decided to phase out many of the R&D activities and replace them with lucrative production contracts. Greyson believed that it could compete with anyone in regard to low-cost production. Under this philosophy, the R&D community was reduced to minimum levels necessary to support in-house activities. The director of engineering froze all hiring except for job shoppers with special talents. All nonessential engineering personnel were transferred to production units.

In 2002, Greyson entered into competition with Cameron Aerospace Corporation for development, qualification, and testing of the Navy's new Neptune missile. The competition was an eight-motor shoot-off during the last 10 months of 2003. Cameron Corporation won the contract owing to technical merit. Greyson Corporation, however, had gained valuable technical information in rocket motor development and testing. The loss of the Neptune Program made it clear to Greyson's management that aerospace technology was changing too fast for Greyson to maintain a passive position. Even though funding was limited, Greyson increased its technical staff and soon found great success in winning R&D contracts.

By 2005, Greyson had developed a solid aerospace business base. Profits had increased by 30 percent. Greyson Corporation expanded from a company with 200 employees in 1994 to 1,800 employees in 2005. The Hercules Program, which began in 1994, was providing yearly follow-on contracts. All indications projected a continuation of the Hercules Program through 2002.

Cameron Corporation, in contrast, had found 2005 a difficult year. The Neptune Program was the only major contract that it maintained. The current production buy for the Neptune missile was scheduled for completion in August 2005 with no follow-on work earlier than January 2006. Cameron Corporation anticipated that overhead rates would increase sharply prior to next buy. The cost per motor would increase from $55,000 to $75,000 for a January procurement, $85,000 for a March procurement, and $125,000 for an August procurement. In February 2005, the Navy asked Greyson Corporation if it would be interested in submitting a sole-source bid for production and qualification of the Neptune missile. The Navy considered Cameron's position uncertain and wanted to maintain a

qualified vendor should Cameron Corporation decide to get out of the aerospace business.

Greyson submitted a bid of $30 million for qualification and testing of 30 Neptune motors over a 30-month period beginning in January 2006. Current testing of the Neptune missile indicated that the minimum motor age life would extend through January 2009. This meant that production funds over the next 30 months could be diverted toward requalification of a new vendor, and production requirements for 2009 still could be met.

In August 2005, on delivery of the last Neptune rocket to the Navy, Cameron Corporation announced that without an immediate production contract for Neptune follow-on work, it would close its doors and get out of the aerospace business. Cameron invited Greyson Corporation to interview all of its key employees for possible work on the Neptune Requalification Program. Greyson hired 35 of Cameron's key people to begin work in October 2005. The key people would be assigned to ongoing Greyson programs to become familiar with Greyson methods. Greyson's lower-level management was very unhappy about bringing in these employees for fear that they would be placed in slots that could have resulted in promotions for some of Greyson's people. Management then decreed that these 35 people would work solely on the Neptune Program, and other vacancies would be filled, as required, from the Hercules and Condor II programs. Greyson estimated that the cost of employing these 35 people was approximately $150,000 per month, almost all of which was being absorbed through overhead. Without these 35 people, Greyson did not believe that it would have won the contract as sole-source procurement. Other competitors could have grabbed these key people and forced an open-bidding situation.

Because of the increased overhead rate, Greyson maintained a minimum staff to prepare for contract negotiations and document preparation. To minimize costs, the directors of engineering and program management gave the Neptune program office the authority to make decisions for departments and divisions that were without representation in the program office. Top management had complete confidence in the program office personnel because of their past performance on other programs and years of experience.

In December 2005, the Department of Defense announced that spending was being curtailed sharply and that funding limitations made it impossible to begin the qualification program before July 2006. To make matters worse, consideration was being made for a compression of the requalification program to 25 motors in a 20-month period. However, long-lead funding for raw materials would be available.

After lengthy consideration, Greyson decided to maintain its current position and retain the 35 Cameron employees by assigning them to in-house programs. The Neptune program office was still maintained for preparations to support contract negotiations, rescheduling of activities for a shorter program, and long-lead procurement.

In May 2006, contract negotiations began between the Navy and Greyson. At the beginning of contract negotiations, the Navy stated the three key elements for negotiations:

1. Maximum funding was limited to the 2005 quote for a 30-motor/30-month program.
2. The amount of money available for the last six months of 2006 was limited to $3.7 million.
3. The contract would be cost plus incentive fee.

After three weeks of negotiations there appeared a stalemate. The Navy contended that the production man-hours in the proposal were at the wrong level on the learning curves. It was further argued that Greyson should be a lot "smarter" now because of the 35 Cameron employees and because of experience learned during the 2001 shoot-off with Cameron Corporation during the initial stages of the Neptune Program.

Since the negotiation teams could not agree, top-level management of the Navy and Greyson Corporation met to iron out the differences. An agreement was finally reached on a figure of $28.5 million. This was $1.5 million below Greyson's original estimate to do the work. Management, however, felt that, by tightening their belts, the work could be accomplished within budget.

The program began on July 1, 2006, with the distribution of the department budgets by the program office. Almost all of the department managers were furious. Not only were the budgets below their original estimates, but the 35 Cameron employees were earning salaries above the department mean salary, thus reducing total man-hours even further. Almost all department managers asserted that cost overruns would be the responsibility of the program office and not the individual departments.

By November 2006, Greyson was in trouble. The Neptune Program was on target for cost but 35 percent behind for work completion. Department managers refused to take responsibility for certain tasks that were usually considered to be joint department responsibilities. Poor communication between program office and department managers provided additional discouragement. Department managers refused to have their employees work on Sunday.

Even with all this, program management felt that catch-up was still possible. The 35 former Cameron employees were performing commendable work equal to their counterparts on other programs. Management considered that the potential cost overrun situation was not in the critical stage and that more time should be permitted before considering corporate funding.

In December 2006, the Department of Defense announced that there would be no further buys of the Hercules missile. This announcement was a severe blow to Greyson's management. Not only was the company in danger of having to

lay off 500 employees, but overhead rates would rise considerably. There was an indication last year that there would be no further buys, but management did not consider the indications positive enough to require corporate strategy changes.

Although Greyson was not unionized, there was a possibility of a massive strike if Greyson career employees were not given seniority over the 35 former Cameron employees in the case of layoffs.

By February 2007, the cost situation was clear:

1. The higher overhead rates threatened to increase total program costs by $1 million on the Neptune Program.
2. Because the activities were behind schedule, the catch-up phases would have to be made in a higher salary and overhead rate quarter, thus increasing total costs further.
3. Inventory costs were increasing. Items purchased during long-lead funding were approaching shelf-life limits. Cost impact might be as high as $1 million.

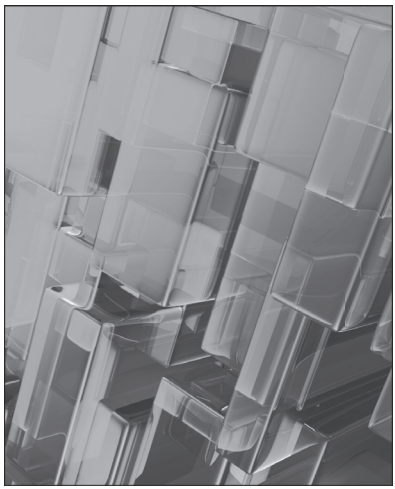
The vice president and general manager considered the Neptune Program critical to the success and survival of Greyson Corporation. The directors and division heads were ordered to take charge of the program. The following options were considered:

1. Perform overtime work to get back on schedule.
2. Delay program activities in hopes that the Navy can come up with additional funding.
3. Review current material specifications in order to increase material shelf life, thus lowering inventory and procurement costs.
4. Begin laying off noncritical employees.
5. Purchase additional tooling and equipment (at corporate expense) so that schedule requirements could be met on target.

On March 1, 2007, Greyson gave merit salary increases to the key employees on all in-house programs. At the same time, Greyson laid off 700 employees, some of whom were seasoned veterans. By March 15, Greyson employees formed a union and went out on strike.

QUESTIONS

1. What are the critical issues in the case?
2. How would you resolve each issue?



Teloxy Engineering (A)

Teloxy Engineering has received a onetime contract to design and build 10,000 units of a new product. During the proposal process, management felt that the new product could be designed and manufactured at a low cost. One of the ingredients necessary to build the product was a small component that could be purchased for $60 in the marketplace, including quantity discounts. Accordingly, management budgeted $650,000 for the purchasing and handling of 10,000 components plus scrap.

During the design stage, your engineering team informs you that the final design will require a somewhat higher-grade component that sells for $72 with quantity discounts. The new price is substantially higher than you had budgeted for. This will create a cost overrun.

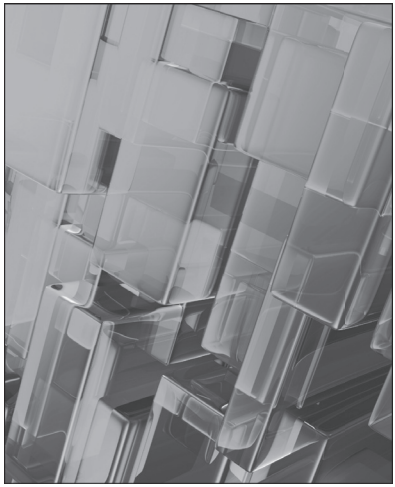
You meet with your manufacturing team to see if it can manufacture the component at a cheaper price than buying it from the outside. Your manufacturing team informs you that it can produce a maximum of 10,000 units, just enough to fulfill your contract. The setup cost will be $100,000 and the raw material cost is $40 per component. Since Teloxy has never manufactured this product before, manufacturing expects the following defects:

% defective	0	10	20	30	40
probability of occurrence (%)	10	20	30	25	15

All defective parts must be removed and repaired at a cost of $120 per part.

QUESTIONS

1. Using expected value, is it economically better to make or buy the component?
2. Strategically thinking, why might management opt for other than the most economical choice?

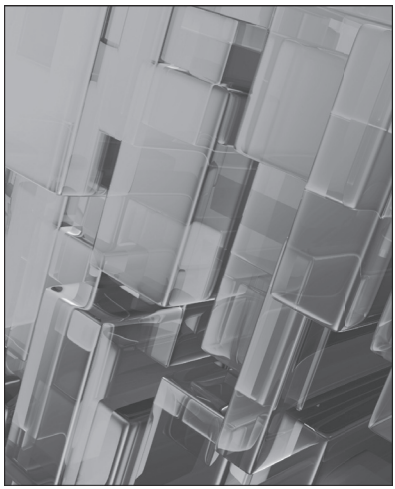


Teloxy Engineering (B)

Your manufacturing team informs you that it has found a way to increase the size of the manufacturing run from 10,000 to 18,000 units, in increments of 2,000 units. However, the setup cost will be $150,000, and defects will cost the same $120 for removal and repair.

QUESTIONS

1. Calculate the economic feasibility of make or buy.
2. Should the probability of defects change if we produce 18,000 units as opposed to 10,000 units?
3. Would your answer to question 1 change if Teloxy management believes that follow-on contracts will be forthcoming? What would happen if the probability of defects changes to 15 percent, 25 percent, 40 percent, 15 percent, and 5 percent due to learning-curve efficiencies?



Payton Corporation

Payton Corporation had decided to respond to a government request for proposal for the R&D phase on a new project. The statement of work specified that the project must be completed within 90 days after go-ahead and that the contract would be at a fixed cost and fee.

The majority of the work would be accomplished by the development lab. According to government regulations, the estimated cost must be based on the *average* cost of the entire department, which was $19.00 per hour (unburdened).

Payton won the contract for a total package (cost plus fee) of $305,000. After the first weekly labor report was analyzed, it became evident that the development lab was spending $28.50 per hour. The project manager decided to discuss the problem with the manager of the development lab.

Project manager: "Obviously you know why I'm here. At the rate that you're spending money, we'll overrun our budget by 50 percent."

Lab manager: "That's your problem, not mine. When I estimate the cost to do a job, I submit only the hours necessary based on historical standards. The pricing department converts the hours to dollars based on department averages."

Project manager: "Well, why are we using the most expensive people? Obviously there must be lower-salaried people capable of performing the work."

Lab manager: "Yes, I do have lower-salaried people, but none who can complete the job within the two months required by the contract. I have to use people

high on the learning curve, and they're not cheap. You should have told the pricing department to increase the average cost for the department."

Project manager: "I wish I could, but government regulations forbid this. If we were ever audited, or if this proposal were compared to other salary structures in other proposals, we would be in deep trouble. The only legal way to accomplish this would be to set up a new department for those higher-paid employees working on this project. Then the average department salary would be correct.

"Unfortunately the administrative costs of setting up a temporary unit for only two months is prohibitive. For long-duration projects, this technique is often employed.

"Why couldn't you have increased the hours to compensate for the increased dollars required?"

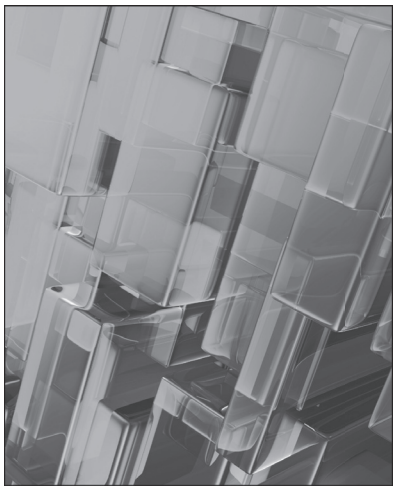
Lab manager: "I have to submit labor justifications for all hours I estimate. If I were to get audited, my job would be on the line. Remember, we had to submit labor justification for all work as part of the proposal.

"Perhaps next time management might think twice before bidding on a short-duration project. You might try talking to the customer to get his opinion."

Project manager: "His response would probably be the same regardless of whether I explained the situation to him before we submitted the proposal or now, after we have negotiated it. There's a good chance that I've just lost my Christmas bonus."

QUESTIONS

1. What is the basis for the problem?
2. Who is at fault?
3. How can the present situation be corrected?
4. Is there any way this situation can be prevented from recurring?
5. How would you handle this situation on a longer-duration project, say one year, assuming that multiple departments are involved and that no new departments were established other than possibly the project office?
6. Should a customer be willing to accept monetary responsibility for this type of situation, possibly by permitting established standards to be deviated from? If so, then how many months should be considered as a short-duration project?



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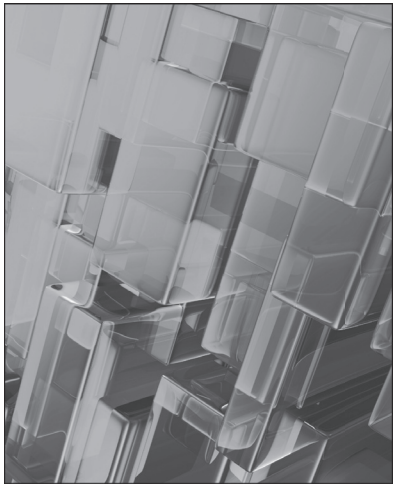


Kemko Manufacturing

BACKGROUND

Kemko Manufacturing was a 50-year-old company that had a reputation for manufacturing high-quality household appliances. Kemko's growth was rapid during the 1990s. It grew by acquiring other companies. Kemko now had more than 25 manufacturing plants throughout the United States, Europe, and Asia.

Originally, each manufacturing plant that was acquired wanted to maintain its own culture, and quite often each was allowed to remain autonomous from corporate at Kemko provided that work was progressing as planned. But as Kemko began acquiring more companies, growing pains made it almost impossible to allow each plant to remain autonomous.

Each company had its own way of handling raw material procurement and inventory control. All purchase requests above a certain dollar value had to be approved by corporate. At corporate, there was often confusion over the information in all of the forms since each plant had its own documentation for procurement. Corporate was afraid that, unless it established a standardized procurement and inventory control system across all plants, cash flow problems and loss of corporate control over inventory could take its toll in the near future.

PROJECT IS INITIATED

Because of the importance of the project, senior management asked Janet Adams, director of information technology (IT), to take control of the project personally.

Janet had more than 30 years of experience in IT and fully understood how scope creep can create havoc on a large project.

Janet selected her team from IT and set up an initial kickoff date for the project. In addition to the mandatory presence of all of her team members, she also demanded that each manufacturing plant assign at least one representative and that all plant representatives be in attendance at the kickoff meeting. At the meeting, Janet said:

> I asked all of you here because I want you to have a clear understanding of how I intend to manage this project. Our executives have given us a timetable for this project and my greatest fear is scope creep. "Scope creep" is the growth of or enhancements to the project's scope as the project is being developed. On many of our other projects, scope creep has lengthened the project and driven up the cost. I know that scope creep isn't always evil and that it can happen in any life cycle phase.
>
> The reason why I have asked all of the plant representatives to attend this meeting is because of the dangers of scope creep. Scope creep has many causes, but it is generally the failure of effective up-front planning. When scope creep exists, people generally argue that it is a natural occurrence and we must accept the fact that it will happen. That's unacceptable to me!
>
> There will be no scope changes on this project, and I really mean it when I say this. The plant representatives must meet on their own and provide us with a detailed requirements package. I will not allow the project to officially begin until we have a detailed listing of the requirements. My team will provide you with some guidance, as needed, in preparing the requirements.
>
> No scope changes will be allowed once the project begins. I know that there may be some requests for scope changes, but all requests will be bundled together and worked on later as an enhancement project. This project will be implemented according to the original set of requirements. If I were to allow scope changes to occur, this project would run forever. I know some of you do not like this, but this is the way it will be on this project.

There was dead silence in the room. Janet could tell from the expressions on the faces of the plant representatives that they were displeased with her comments. Some of the plants were under the impression that the IT group was supposed to prepare the requirements package. Now Janet had transferred the responsibility to them, the user group, and they were not happy. Janet made it clear that user involvement would be essential for the preparation of the requirements.

After a few minutes of silence, the plant representatives said that they were willing to do this and it would be done correctly. Many of the representatives understood user requirements documentation. They would work together and come to an agreement on the requirements. Janet again stated that her team would support the plant representatives but that the burden of responsibility would rest solely on the plants. The plants would get what they ask for and nothing more. Therefore, they must be quite clear up front in their requirements.

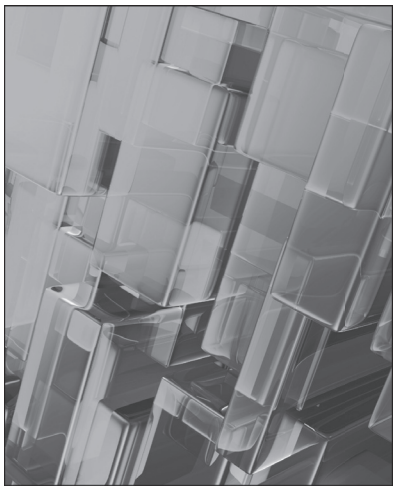
While Janet was lecturing to the plant representatives, the IT team members were just sitting back smiling. Their job was about to become easier, or at least they thought so. Janet then addressed the IT team members:

> Now I want to address the IT personnel. The reason why we are all in attendance at this meeting is because I want the plant representatives to hear what I have to say to the IT team. In the past, the IT teams have not been without some blame for scope creep and schedule elongation. So, here are my comments for the IT personnel:
>
> - It is the IT team's responsibility to make sure that they understand the requirements as prepared by the plant representatives. Do not come back to me later telling me that you did not understand the requirements because they were poorly defined. I am going to ask every IT team member to sign a document stating that they have read over the requirements and fully understand them.
> - Perfectionism is not necessary. All I want you to do is to get the job done.
> - In the past we have been plagued with "featuritis," where many of you have added in your own bells and whistles unnecessarily. If that happens on this project, I will personally view this as a failure by you, and it will reflect in your next performance review.
> - Sometimes people believe that a project like this will advance their career, especially if they look for perfectionism and bells and whistles. Trust me when I tell you this can have the opposite effect.
> - Back-door politics will not be allowed. If any of the plant representatives come to you looking for ways to sneak in scope changes, I want to know about it. And if you make the changes without my permission, you may not be working for me much longer.
> - I, and only I, have signature authority for scope changes.
> - This project will be executed using detailed planning rather than rolling wave or progressive planning. We should be able to do this once we have clearly defined requirements.
>
> Now, are there any questions from anyone?

The battle lines were now drawn. Some believed that it was Janet against the team, but most understood her need to do this. However, whether the project could work this way was still questionable.

QUESTIONS

1. Was Janet correct in the comments she made to the plant representatives?
2. Was Janet correct in the comments she made to the IT team members?
3. Is it always better on IT projects to make changes using enhancement projects or should we allow changes to be made as we go along?
4. What is your best guess on what happened?



Chance of a Lifetime

BACKGROUND

Sometimes in life opportunities come up for project managers, and they must evaluate the risks and the rewards. This case involves an experienced project manager with a well-secured position in a large company who was given the opportunity to join a start-up company. Unfortunately, although some of the critical decisions were his hands, they had a serious effect on his future and career.

SIGNS OF A POOR ECONOMY

Jason was a high school science teacher who liked to dabble in the small laboratory in the basement of his home. For two years, Jason had been experimenting with the design of long-lasting batteries that could be used in battery-powered cars. Jason was successful in designing two different types of batteries that had much longer lives than existing batteries under development by larger companies. Jason took out patents on his designs and tried to sell them to the larger companies. Unfortunately, with the low cost of gasoline at the pumps, the larger companies were not interested in Jason's ideas or his patents.

Economists, however, were predicting that within the next year, the cost of gasoline at the pumps could increase by 50 percent or more from $2 per gallon to $3 or more per gallon. If that happened, Jason believed that there would be a significant interest in electric-powered vehicles.

Jason believed that the timing was right to go out on his own. He was earning a little over $40,000 a year as a high school science teacher. He was married with two children, and there were significant financial risks in going out on his own. Despite the risks, his family was supportive of his decision to start up his own company.

Jason needed start-up funding. His family was willing to provide him with $50,000, but Jason knew that this was certainly not enough. This money could be gone in two months or less. He had a friend who had contacts with investment bankers and personal investors. Jason's friend was also an accountant. Originally Jason thought that the best approach would be to go with investment bankers who were willing to lend him $2 million. Financially, that sounded good. But the investment bankers wanted 75 percent of the company and complete decision-making authority. Jason was reluctant to give up control.

His friend was able to convince a group of investors to provide start-up funds of $500,000. These investors were willing to agree to a 49 percent share in the company. And if Jason were able to repay them their initial $500,000 plus a $100,000 profit at the end of the first year, the investors would return to Jason 44 percent of the company. That way the investors would have a 5 percent ownership in the company and have recovered all of their costs plus a 20 percent profit in just one year. Jason found this deal found attractive. His friend agreed to work as Jason's accountant on a part-time basis for $10,000 per year plus 10 percent ownership in the company. The ownership, however, did not include any voting rights and would not be in effect until the beginning of the third year of operations.

HIRING A PROJECT MANAGER

Jason believed that eventually he could sell his patents at a reasonable price. But the real big money would be in obtaining contracts to install his batteries in cars, and the market was somewhat limited. He could work with the automotive manufacturers as a contractor performing the installation work. He could also work with government agencies creating fleets of electric-powered vehicles for them. In any event, Jason needed a project manager.

After a lengthy search, Jason hired Craig, a 20-year project manager with an automobile supplier and with extensive knowledge of batteries. Craig's salary would be $50,000 initially and also included 35 percent ownership in the company after two years. Once again, the ownership did not come with voting rights.

Craig would have to write proposals and prepare project plans, schedules, budgets, and stakeholder reports. He would be the prime interface between the clients and the company after contract award.

It was clear at this point that a large portion of the start-up costs would be spent just on writing unsolicited proposals for work on electric-powered vehicles and batteries. Contracts had to be won before the start-up funds were expended.

The moment of truth was now at hand; Jason quit his job as a high school science teacher and started up his company.

AWARDING CONTRACTS

The unsolicited proposals sent to automotive manufacturers fell on deaf ears. Even though the cost of gasoline was increasing, the automotive manufacturers could not see any future in electric-powered vehicles. If necessary, they could also spend billions of dollars to compete with Jason's company.

Government agencies, however, were very interested in Jason's ideas. Within three months, Jason's company had received government contracts to convert some existing gas-powered government vehicles to electric-powered vehicles.

Jason and Craig were now drawing salaries in excess of $125,000 thanks to the government contracts. They rented a large warehouse and converted it into a facility where mechanics could work on cars. They also hired four licensed auto mechanics.

Life was good. Jason's dream was coming true. His salary was three times his salary as a high school science teacher. He was rapidly paying off his $500,000 start-up debt. The price of gasoline at the pumps was still rising and approaching $3 a gallon. The news media was discussing the need for electric-powered vehicles.

SEVERAL MONTHS LATER

As the contracts with the government agencies began approaching the completion phase, Jason and Craig began writing unsolicited proposals for follow-on work. Gas prices appeared to have leveled off, but the news media was still selling the need for electric vehicles.

A large automobile manufacturer in the United States as well a battery manufacturer approached Jason about buying out his company. If Jason agreed to sell, then Jason, Craig, and possibly even the accountant could become millionaires overnight.

Craig and the accountant wanted to sell and take their winnings. But Jason was enamored of his title of president and drawing a salary three times what he was earning as a teacher. Craig tried to explain to Jason that the company had no real business plan and that living day to day is not good and, if the government failed to renew the contracts, the company would go under.

Jason refused to listen. Both the automotive manufacturer and the battery company told Jason that their offer was good for only one week. This was certainly not enough time to wait and see if the contracts would be renewed with the government. A decision had to be made.

Once again, Jason refused to consider selling the company. Craig and the accountant told Jason that they might consider legal action to try to force him to sell, but without voting rights, that would be a difficult case to win.

Jason informed the automotive manufacturer and the battery company that he had no intention of selling. Two weeks later, as Jason and his team were finishing up the government contracts, the government agencies announced that the contracts would not be renewed. Within a week, Jason's company was out of business. Jason returned to teaching high school science and Craig fortunately was rehired by his previous employer.

QUESTIONS

1. Was Jason right in wanting to start up his own company?
2. Did Craig make a good decision in giving up a potential $150,000 salary as a project manager to work with Jason?
3. How does a project manager convince executives that they (the executives) are making bad business decisions? How many clients did Jason's company have? Who were the company's competitors, and what was the financial strength of the competition?
4. If you were in Jason's position, would you have sold the company? If so, what would you then do with your life?
5. Is it true that some project managers put their careers at stake each time they take on a new project? Can we call this career risk management?