In-Line Engineering – A Study in Creative Corporate Financing[1]

(Case 1036 - Part 1)

The Case:

In-Line Engineering has been in business in the Midwestern United States now for over 30 years. The firm has succeeded by being the "big frog" in a relatively small pond, a city of 50,000 located 130 to 160 miles distant from the two nearest larger cities. The metropolitan area served by In-Line Engineering has a population of about 250,000 scattered across 300 square miles.

The company founder and to this point, sole owner, is Mr. Sam Sliderule, PE. Now 68 years old, Sam's doctor has advised him that he is in the early stages of congestive heart failure and that he has to slow down or he will be slowed down.

In-Line Engineering occupies one office and employs a staff of about 20 persons. In addition to Sam, there are two other licensed PEs, Calvin "Cal" Culator, who is about 45, and Maxmillian "Max" Profit, who is 35. The firm has three EITs, a licensed surveyor, three drafters, two 4-person survey crews, a receptionist, and a bookkeeper (Mrs. Sliderule).

Desperate to retire by age 69, Sam decided three years ago that the only way to get his equity out of the business was to sell to his employees, and he began doing that by using an Employee Stock Ownership Plan (ESOP). In the past 12 months, Sam has brought Cal, Max and his surveyor in for larger shares, leveraging their purchases by using their bonus dollars to allow them to buy shares essentially tax free.

In-Line has definitely operated as a small business, with the personalities of the key players dominating the firm. For the past 35 years, Sam has been the boss, answering to nobody but Mrs. Sliderule, and he has gotten used to keeping the details of the business in his head. If this were a poker game, Sam would be letting nobody see his cards.

Cal is an easy-going sort, happy to immerse himself in project work and with little interest in running a business. Max, on the other hand, is a "hard-charger" with a burning urge to get ahead. He would like to be the boss, even though he is somewhat lacking in experience, management skills, and some of the finer points of client

[1] All names have been changed to protect the guilty; any similarity to any actual engineering firm, living or dead, is purely a coincidence.

relations. Max and Cal both put in about 50 hours Monday through Friday, but Max also is in the habit of spending several hours at the office each weekend.

Recently, a ripple of unease has disturbed the tranquility of In-Line's pond. A competitor, FBN Engineering Services, has opened an office in town! FBN has a reputation as being a "bottom-feeder," low-balling their up-front estimates and making up the difference on change orders – which seem to occur on every project, as if by magic. In the 60 days since FBN opened its office, In-Line's backlog has dropped by 20 percent. Sam can easily foresee disaster, a postponed retirement, and an early death in his future. Max is equally disturbed, since he has recently been spending his weekends hacking his way into the In-Line's electronic "books," and in so doing he has learned all the details of how Sam has been running the business – or, running it into the ground, in Max's opinion.

Another sixty days has now passed, and In-Line's backlog is at an all-time low. New projects are coming in the door at a rate equal to 25 percent of the projects being completed. Sam and Max, in their own ways, are both aware that financial disaster is imminent. One bright Saturday morning, Max is surprised to find Sam in the office, and they start to talk about the business. It soon becomes clear to Sam that Max knows far more than he should about the true state of affairs at In-Line, but as they talk, Sam begins to understand that this is not all bad. Finally, Sam has found somebody he can confide in.

For his part, Max is elated that Sam is in a frame of mind where he appears ready to attempt some "unconventional" measures to stave off ruin. Seizing this opportunity, Max outlines his plan to save In-Line Engineering:

Step 1 is to find a "white knight" that can neutralize FBN's growing stranglehold on the local market. It so happens that Max has a friend at FBN's arch-rival, Nemesis Engineering, and he knows that Nemesis has a policy of letting FBN do their market research, then moving into an area that FBN has staked out. Sam shudders as he considers the impact on his clients if he sells In-Line Engineering to Nemesis, but he is desperate for options and is willing to consider just about anything.

Step 2 is to make In-Line Engineering look as prosperous and profitable as it can possibly be made to appear, this so Sam and Max can convince Nemesis to purchase the firm. This way, Sam can escape to retirement, and Max will become the boss of the new branch office. There might even be a few dollars that will fall into the pockets of Cal and the other participants in the ESOP, in addition to everybody keeping their job, which is no small consideration.

As the day lengthens into evening, Max and Sam come up with a list of items that they shape into a "transition plan" to make In-Line Engineering look its best. The plan includes the following options:

- Sam, as the trustee, is to "raid" the ESOP for operations cash.

- Employee health insurance is to be quietly cancelled.
- The errors and omissions (E&O) insurance payment is to be "suspended."
- Employees are to be notified that "exempt" personnel get a 25 percent cut in pay and "hourly" personnel can only report when there is billable work for them.
- Every hour the "exempt" employees are not doing billable work must be used for making calls on current and former clients, asking them for both new projects as well as "job well done" letters. They are to explain that the letters are for referrals for marketing the firm, when in actuality the letters are for making In-Line look good to Nemesis.
- Each new job brought in is to be "booked" into the backlog at twice to three times the actual contract amount. Actual contracts are to be taken home by Sam, while the office files are to be filled with cost-inflated "dummy" contracts bearing signature page photocopies.
- Payments to subcontractors and vendors will be put on a slow schedule, with no payments to occur in the last 60 days prior to selling the firm.
- If worst comes to worst, the last month before signing on the dotted line with Nemesis will include "neglecting" to pay Uncle Sam either the employees' or employer's share of Social Security, so there is cash to meet the payroll.
- No one but Max, Sam, and Mrs. Sliderule is to know what is going on until the deal with Nemesis is completed. In particular, Max cautions that Cal should be kept in the dark since he is a "by the book" guy and has often been quick to express doubts whenever Max has suggested a questionable (what Max terms "creative") approach to problem solving.

Max and Sam each head to their respective homes at day's end, and Sam's head is fairly spinning with all that just happened. Later that evening, after a good meal with Mrs. Sliderule, Sam once more looks over the transition plan. He cannot help but hesitate. This is all happening so quickly, and certain aspects of the transition plan are quite unpleasant, even though Sam can clearly see based on Max's projections that all of the components seem necessary to keep In-Line Engineering from financial ruin. Plus, once the deal goes through with Nemesis, it seems very likely that everything will turn out better for everyone involved.

What should Sam do?

Results

The following tables summarize the online survey responses received for this case. Table 1 presents data relative to whether the described actions are legal. Table 2 presents data relative to whether the described actions are ethical.

Table 1. Perceived Legality of Possible Actions to Keep In-Line Engineering from Financial Ruin, Percentage of Respondents Agreeing, Ranked by Weighted Average

Item	Possible Action to Keep In-Line Engineering from Financial Ruin	Perceived Legality of Action Percentage of Respondents (Note 1)					Weighted Average (Note 2)	Standard Deviation
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Identify/ pursue a "white knight"; e.g., Nemesis Engineering.	38	38	14	6	4	4.00	1.06
6	Increase marketing efforts (solicit "job well done" letters).	31	55	2	7	5	3.98	1.05
5	Cut pay to all employees.	24	53	7	9	7	3.76	1.13
10	Do not tell employees what is going on.	13	33	28	15	11	3.22	1.18
3	Cancel employee health insurance.	11	29	20	16	24	2.87	1.35
4	Suspend Errors & Omissions insurance.	9	22	19	22	28	2.63	1.34
8	Slow, then suspend payments to subcontractors and vendors.	0	19	17	46	19	2.35	0.98
2	Raid the ESOP for operations cash.	6	7	17	22	48	2.00	1.20
7	"Book" new work at 2x to 3x actual contract amounts; fill files with dummy contracts.	0	4	11	19	66	1.53	0.84
9	Neglect to pay Social Security to Federal Government.	2	4	4	11	79	1.38	0.87

Note 1. Percentages are based on the number of respondents for each question. Values may not total 100 due to rounding.
Note 2. The weighting scale is from 1 to 5, as follows: 5- Strongly Agree, 4- Agree, 3- Neutral, 2- Disagree, 1- Strongly Disagree.

Table 2. Perceived Ethicality of Possible Actions to Keep In-Line Engineering from Financial Ruin, Percentage of Respondents Agreeing, Ranked by Weighted Average

Item	Possible Action to Keep In-Line Engineering from Financial Ruin	Perceived Ethicality of Action Percentage of Respondents (Note 1)					Weighted Average (Note 2)	Standard Deviation
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Identify/ pursue a "white knight"; e.g., Nemesis Engineering.	31	33	17	10	8	3.69	1.24
6	Increase marketing efforts (solicit "job well done" letters).	19	40	23	10	8	3.54	1.13
5	Cut pay to all employees.	4	27	19	19	31	2.54	1.28
4	Suspend Errors & Omissions insurance.	2	8	20	27	43	1.98	1.06
10	Do not tell employees what is going on.	2	0	14	47	37	1.82	0.81
8	Slow, then suspend payments to subcontractors and vendors.	0	4	4	43	49	1.63	0.74
3	Cancel employee health insurance.	0	6	10	23	62	1.60	0.88
2	Raid the ESOP for operations cash.	2	2	6	22	69	1.47	0.85
9	Neglect to pay Social Security to Federal Government.	0	2	6	12	80	1.31	0.68
7	"Book" new work at 2x to 3x actual contract amounts; fill files with dummy contracts.	0	2	4	16	78	1.30	0.64

Note 1. Percentages are based on the number of respondents for each question. Values may not total 100 due to rounding.
Note 2. The weighting scale is from 1 to 5, as follows: 5- Strongly Agree, 4- Agree, 3- Neutral, 2- Disagree, 1- Strongly Disagree.

Respondent data in both tables are ranked by weighted average, from greatest to least perceived legality (Table 1) and greatest to least perceived ethicality (Table 2). It is important to remember that the respondent pool is a convenience sample and is not statistically representative of any particular group. Respondent comments suggest that most respondents are engineering practitioners, and some engineering students.

Several observations can be made from these data. First, respondent opinions about legality and ethicality vary across all of the potential actions that Sam might consider. That is, almost every item shows a range of responses from strongly agree to strongly disagree. This is not to say that responses are not clustered, but the range is surprising. If Sam were to approach ethics by polling public opinion, he could hear pretty much what he wanted to hear depending on who he listened to.

Second, respondents deemed that most of the potential actions are *illegal* (6 of 10 items average below 3.0/5.0) and almost all of the potential items are *unethical* (8 of 10 items average below 3.0/5.0). Clearly Sam is facing some hard and difficult choices, but the data suggest that he would be crossing the line were he to go forward with most of these particular actions.

Third, respondent opinions about what is legal (*Can* Sam do this?) versus what is ethical (*Should* Sam do this?) differ. On the one hand, it is hardly surprising to encounter another illustration of the difference between "legal" and "ethical." However, the fact that differences in respondent opinion exist across all action items, and that sharp differences of opinion exist for some action items, is striking.

To Be Continued…

Differences between how respondents viewed the legality and ethicality of Sam's potential actions, plus much more information about this case, will be analyzed and discussed in detail in Part 2 of this case study.