SELECTED INVESTOR QUESTIONS RECEIVED THROUGH NOVEMBER 5, 2018

Question
What about the business model causes license revenue to be flat to down in normal course? If it doesn't grow, please help us understand why not?

Response:
The timing of license sales can be quite irregular resulting in quarterly swings in organic growth. For example, in Q318 businesses representing approximately 10% of consolidated maintenance revenue recorded negative 45% organic license revenue growth. Excluding those businesses organic license revenue growth would have been positive 7% in Q318 versus negative 7%. That same group of businesses recorded 60% organic license revenue growth in Q317 and 5% in Q316.

In Q317 businesses representing approximately 5% of consolidated maintenance revenue recorded negative 62% organic license revenue growth. Excluding those businesses organic license revenue growth would have been 17% in Q317 versus 1%. That same group of businesses recorded 25% organic license revenue growth in Q316, and 26% in Q318.

Contributing to the volatility is the fact that we will always discount licenses first and recurring revenue last when we are under price pressure.

Jamal

Question
What would you say has been CSI's biggest failure in the last 20 years? How did it change your business?

Response:
The biggest failure that pops to mind was taking too much money when we didn't really need it. We had one major investor and we were hoping to balance their influence by bringing in another. The second major investor served that purpose well, but brought challenges of their own. The unnecessary dilution to our employee shareholders has cost them literally billions of dollars. The experience has made us very conscious of the value of our shares. We didn't issue any shares when we went public. We haven't issued any in the last decade. Perhaps we have been too sensitive about share issuances because of that early dilution.

Our second biggest failure was selling one of our vertical market software businesses shortly after we purchased it. It was a good business. We liked the team. We were offered an extraordinary price for the business by a venture backed dot-com. It was early in our history. We were less certain of our abilities and objectives and took the quick win. I don't look for quick wins any more. Every now and then, we check in with the VMS business that we sold. We'd love to buy it back so that we could say that we own every VMS business that we have ever bought. Our reputation for being a good perpetual owner of VMS businesses is really important to us… and this is the one glaring example of CSI selling a VMS business.

There is a management maxim that "you learn more from your failures than your successes". Kahneman and Tversky's Prospect Theory (the idea that most humans are risk-seeking in the domain of probable losses, and risk-averse in the domain of probable gains), suggests that people tend to double down on their losers and cash out their winners. It feels intuitive that learning from large failures is more poignant than any other experience. But only learning from big mistakes is a slow and painful way to learn. CSI is

in a good position to learn from lots of small experiments and experiences. We are trying to institutionalise that skill.

Mark L.

Question
Have you ever thought about creating a 'business system' just like Danaher (which is the lead reference in that field). I know CSI does a lot of benchmarking and fosters best practices among its BUs and Operating Groups, creating a kind of 'decentralized business system' spread through the organization. However, at the same time, I think there are also benefits with a more formal and standardized approach. Have you ever had this discussion at the board level?

Response:
In the 2015 President's Letter (http://www.csisoftware.com/wp-content/uploads/2016/04/PL_2015.pdf) I discussed a CSI study of high performance conglomerates "HPC's". Several HPC's, including Danaher, had extensive and codified operating methodologies. I don't doubt that their technique works for the right kind of organisation.

We do some of the things that the operationally focused HPC's do: CSI benchmarks its business units and we share best practices. We usually caveat these practices with phrases like "if you do this, then historically there's been a Y% probability that Z will happen", and "this seems to have worked amongst X% of our performing businesses". Because we have hundreds of similar VMS businesses, my sense is that we are more statistical and less dogmatic about our best practices than the operationally focused HPC's. I also have the sense that our best practices are more granular that those found in the HPC's. Instead of championing broad processes like lean six sigma or the Pareto principle and applying them to a relatively small group of businesses competing in different industries, we are more likely to test a very specific hypothesis with an observational study of several hundred CSI VMS acquisitions. If the hypothesis is correct, it may lead to the development of a best practice. Whether the hypothesis proves correct or not, the observational study nearly always leads to a flurry of new hypotheses to test.

A lot of our practices were (and are) the result of ad hoc analysis (see 2016 President's Letter, http://www.csisoftware.com/wp-content/uploads/2017/04/2017-Presidents-Letter-1.pdf). I think we have less bureaucracy regularly applied to the development, application and compliance with centrally developed best practices than the operationally focused HPC's.

CSI has sought, hired, trained and promoted senior managers who both wish and deserve to work autonomously. The more autonomously you encourage business units to operate, the less likely you are to be able to specify exactly how they should be operated. Along with Berkshire and ITW (during the Nichols era), I think we are at the left end of the autonomous vs centrally directed spectrum for the HPC's.

You mentioned that there are benefits of a more formal and standardised approach. I'm sure you can also think of some drawbacks… particularly when you factor in our statistically driven skepticism about the universality of best practices, our disdain for bureaucracy and our managers' appetite for autonomy.

We have discussed the idea of gathering and codifying operating methods at the board a couple of times. The discussions were in-passing, and not in-depth.

Mark L.