Of Risks and Rewards

THERE WAS A STATISTICS STUDENT who, when driving his car, would always accelerate hard before coming to any intersection, whiz straight through, then slow down again once he got to the other side. One day he had a passenger who, understandably, was unnerved by his driving style and asked him why he was in such a hurry when passing through intersections. The statistics student replied, "Well, statistically speaking, you are far more likely to have an accident in an intersection, so I make sure that I spend as little time there as possible."

Over the past decade, the number of people participating in the stock market has increased dramatically. On average, stock markets deliver higher returns than do fixed interest investments. This has driven an increasing number of investors to put more of their assets in the equities market.

As recent events have aptly demonstrated, investing in a stock market is not without its risks. With increasing participation in the markets, the general public has learned more about managing risk. Investors understand that a diversified portfolio reduces risk. Mutual funds offer small investors the opportunity to invest in a basket of stocks thereby protecting them from the volatility inherent in a single equity. A well-balanced portfolio also includes fixed income securities. The average investor might also make a few high-risk bets but would be ill advised to invest more than 10% of the total portfolio this way, as the possibility of large losses is significant.

Many of these risk management strategies have direct application when making investments in information systems. Investments in new cutting-edge technologies that remain unproven are very similar in risk profile to investing in high-risk start-ups. Only a small percentage of an IT portfolio should be devoted to such high-risk bets. Although older technologies are not nearly as exciting, they are proven to yield predictable returns.

Buying software from a particular vendor is like investing in the vendor company. If the company fails, the software is unsupported and hence must be replaced. In this circumstance, the initial investment in software licenses and implementation becomes worthless. For this reason, an assessment of the business prospects of the software company is as important as the functionality of the software. Any investment in new software used by very few clients should be treated as a high-risk investment. Only a small part of any IT strategy should be bet on such cutting-edge technologies.

Venture capitalists have devised strategies for managing such high-risk investments. They make small initial capital commitments, with each subsequent tranche dependent on achievement of objective milestones. This approach is effective with new software investments as well. Limited, short term commitments with subsequent payments dependent on achieving objectives controls risk. Milestone objectives should always be based on usage statistics, as those are the only reliable predictor of ultimate success.

More specifically, any of the following parameters constitute unacceptable risk of IT investment funds.

- More than 10% of the IT budget
- New software not in use in a similar sized enterprise
- Payments to the software vendor or developer before it is in wide use by users
- Development or implementation process more than two years in duration before users get access

I label these as unacceptable because they are preventable and unnecessary risks. Any IT project can be reduced to smaller modules of shorter duration, allowing risk to be managed more effectively. These concepts can also be applied to the issue of a national strategy for the Electronic Health Record (EHR).

Denis Protti's paper describes the UK approach to managing "chance and unpredictability" in developing clinical information systems for the National Health Service (NHS). The 17 Electronic Record Development and Implementation Programme demonstration projects aim to have "investigated, explored and implemented a variety of different approaches to a range of aspects of the electronic record agenda." With this investment strategy, the NHS is attempting to identify what works and what does not. Rather than choosing one approach for the entire country, they have accepted that the best approach to introducing electronic health records has not yet been identified. With this implicit recognition of the developmental nature of these efforts, they have not committed all their resources to a single approach. These pilots are worth watching as they have a lot to teach us.

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In Canada, we have an equivalent array of approaches to this problem. Each province is using a different approach to tackling this challenge. All are still at early stages in their development. There have been both successes and failures. And, although there are strongly held views about what is the best approach to implementing the electronic health record, nobody can claim to know the best approach. Until someone gets across the finish line, this will remain a speculative business.

A growing chorus of voices is decrying the divergent approaches being pursued across Canada. Many call for a national consensus on how to approach building the EHR. Driving all of us to a single approach would be an unfortunate development. A consensus does not mean the approach will be correct or successful. Our multitude of approaches protects us by facilitating learning and diversifying risk.

As much as we would like to eliminate the uncertainty around this important task, we have to accept that we cannot. The national strategy undertaken by the UK has much to teach us about managing risky investments in health IT. They have national coordination while supporting a diversity of approaches to the problem. This a formula that we should emulate.

In his zeal to reduce the chance of an accident, the driver in the joke tries to spend as little time in intersections as possible. In so doing, he inadvertently increases his risk. We must be careful to avoid increasing our risk of failure through harmonizing our approaches to building the EHR when the successful formula is not yet known. Trying to speed our way through this period of uncertainty simply increases our risk of failure.

A lot of EHR projects are still going to end up as road-kill on the information highway. It is our responsibility to make certain that all our projects do not end up in the same accident.

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