Why do Projects Fail?

Lessons from History

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There is no consensus about how project failure and success should be defined. It's either subjectively defined or left to assumptions and interpretations. There have been various failed projects in the IT industry that began memorably and as game-changers in the industry but instead failed to achieve all their objectives, resulting in significant losses by the respective companies.

Very little research has attempted an in-depth investigation of failed projects to identify exactly what the factors are behind the failure. In this article, we analyse six high-profile projects' failures. The data was gathered from various public sources. Our analysis indicates that the reasons for the failure of some of these projects may have included the following:

1. Over-ambitious requirements
2. Unrealistic functionalities
3. End users' resentment to change
4. Uncertainties in the project ecosystem
5. Managing unknowns

Below are descriptions of the selected projects used in this research:

1. IBM'S 7030 STRETCH PROJECT 1956

In 1956 IBM set out on an overzealous project for what would be the fastest computer in the world, and in 1960, after almost $50M spent, the Stretch 7030 was developed, a machine capable of handling half a million instructions per second and anticipated to be 200 times faster than its predecessors. However, this project was a failure as the machine was expensive at $13.5M and came short of its anticipated power as it was only 30 to 40 times faster. Due to these shortcomings, the anticipated demand for the machine dropped, and this eventually led to the slashing of its price by nearly half, to $7.8M, which was less than the cost of production. This led to losses by the company and eventually the halting of production of the machines. This overambitious project was an embarrassment to the company's reputation.

2. TAURUS ELECTRONIC TRADING PLATFORM 1980

This project by the London stock exchange arose from the growth of share trading in the 1980s, where use of paper-based tracking of share ownership and transfer was proving to be impossible and strenuous; therefore, this project was to introduce a modernized, high-speed, and efficient system that would replace the archaic paper-based system. The project was two phased, where during the first phase, it would create a central database that would be used as a hub for collecting and recording data and carrying out transactions. However, this meant the cutting out of registrars (middlemen) that had been carrying out a profitable business, which resulted in strong opposition by them. The stock exchange later embarked on a journey to create a design that would be universally acceptable by all stakeholders. However, the new system was complex, and this was followed by opposition from some stakeholders. The system also involved the purchase of a system operating in the U.S., and this meant changing to the processes to support the British law. Eventually the project was scrapped in 1993, having cost $114.9M.

3. KNIGHT-RIDER'S VIEWTRON SERVICE 1983

Viewtron was an online service offered by Knight-Rider and AT&T from 1983 to 1986 and had a special terminal: the AT&T sceptre. AT&T had invested $100M, and the service was unlike other services available as it emphasized, according to the *Miami Herald*, Associated Press, and other services, online chats and file downloads. At the project's pinnacle, the system was operational in over 15 cities in the U.S. and had an additional investment of $50M, but the project was terminated, and AT&T had to write off its $100M investment in March 1986 for the following reasons: The service required users to purchase a decoder, whose $600 price was too high for most users, in addition to a monthly subscription fee of $12. Secondly, the project was over ambitious as its uptake was slow and the market was not yet ready for this service, as best described by the expression that Viewtron tried to offer too much to too many people, who were not overly excited.

4. FOXMEYER ERP PROGRAM 1996

This project by the pharmaceutical company FoxMeyer included the purchase of an SAP system and a warehouse automation system. The project was contracted to Andersen Consulting, which was tasked with integrating and implementing the system at a cost of over $50M in 1993. However, the project was a failure due to reasons such as an unrealistic timeline for the completion of the project, which was 18 months, and uncooperative employees in the company's warehouses, who felt their job security would be threatened if the new system was integrated.

This included damage to the warehouse that was integrated by the workers as they damaged inventory and subsequently left orders unfulfilled. By 1994 the SAP system could only process 10,000 orders a night compared to 420,000 orders by the previous mainframe. By 1996 FoxMeyer had gone bankrupt and eventually was bought by its competitor for a measly $80M. The company later sued Andersen Consulting and SAP in 1996, claiming it had spent twice the estimates to get the system in a quarter of the sites.

5. SAINSBURY'S WAREHOUSE AUTOMATION 2003

Sainsbury, the supermarket giant in Britain, set out to install an automated fulfilment system in its Waltham Point distribution centre in Essex. This was the distribution centre for greater London and southeast England; therefore, the barcode-based fulfilment system would increase efficiency and streamline operations if installed correctly and run successfully. However, the project was scrapped due to sophisticated customer and product segmentation that required a complex supply chain solution that couldn't be delivered to the required scale and IT systems that failed to deliver the anticipated increase in productivity.

6. BBC'S DIGITAL MEDIA INITIATIVE 2008

This broadcast engineering project by the national broadcaster was started in 2008 with the aim of modernising the company's production and archiving methods through the use of a connected digital production and media asset management; this contract was given to the company Siemens. After five years and €98M spent, the project was terminated for the following reasons: First the BBC executive did not have a sufficient grip on the programme and failed to commission a thorough independent assessment of the whole system to see whether it was technically sound. Finally the BBC failed to appoint a senior person to act as a single point of accountability and bring all the strands of the initiative together during the adoption and implementation of the project.

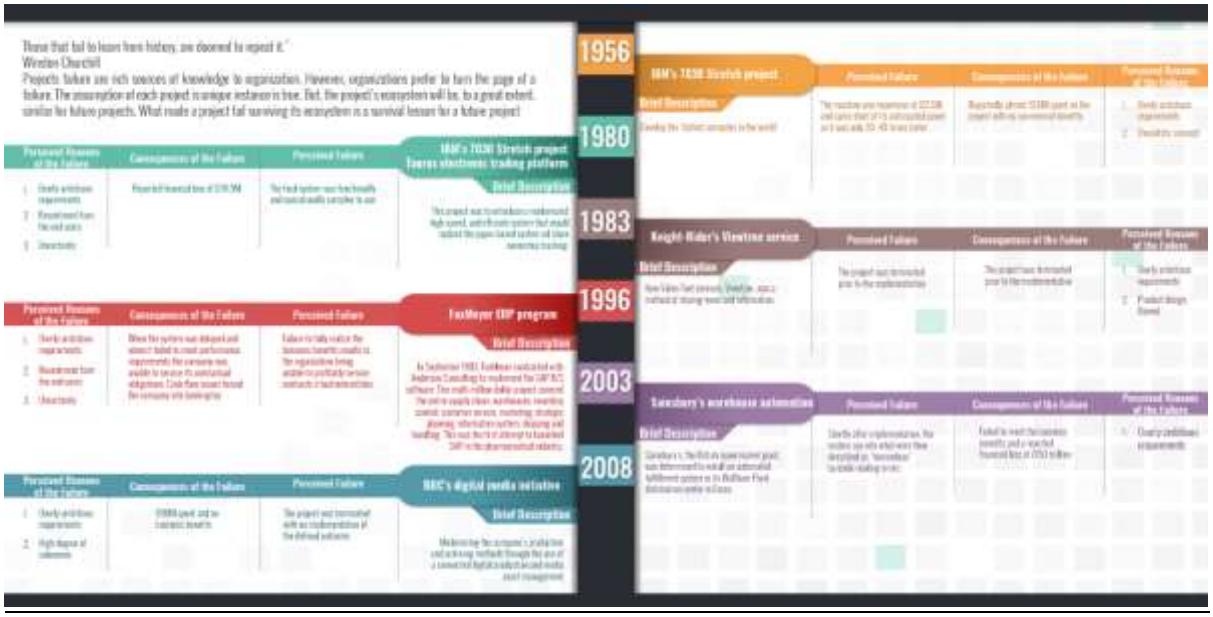

Figure 1: List of six selected IT projects failures

LESSONS TO LEARN FROM THESE PROJECTS' FAILURES

1. Difficulty of visualization, which has been attributed to senior management asking for over-ambitious or unrealistic functions

2. Project representation not understandable for all stakeholders and the late detection of problems

3. Excessive perception of flexibility, which contributes to time and budget overrun and frequent requests for changes by the users

4. Hidden complexity, which involves difficulties to be estimated at the project's outset and interface with the reliability and efficiency of the system

5. Uncertainty, which causes difficulty in specifying requirements and problems in implementation of the specified system

ANALYSIS

To most people, success implies achievement, whereas failure is the absence of success. 'Success', in general, is a relative concept and is dependent upon the achievement of certain parameters. The end objective to attain a particular state of accomplishment is perceived to be bifurcated into two mutually exclusive outcomes: 'success' and 'failure'. This paper uses two key parameters to determine project failure: the organization financial investment on the project and whether the outcome was achieved as prescribed to the project. A project is deemed as a failure when the total invested money or part of it is reported as a financial loss and/or the project has not delivered the expected outcome.

Projects operate in complex ecosystems. Ecosystems are complex systems made up of interconnected entities and resources (i.e., stakeholders, organization culture, business requirements, etc.). Each project has a unique ecosystem, and each entity and resource in the ecosystem has a role and an influential weight in the execution process of the project. Projects' ecosystems are dynamic, and some entities in the ecosystem can be volatile and have unpredictable reactions to change.

Projects fail because they do not survive in their ecosystems. Projects are usually run with the mindset of focus on execution and ignore surviving in their ecosystem. For example, in the case of FoxMeyer, one of the project ecosystem's entities, end users, resented the change, which created an unbalanced ecosystem for the project.

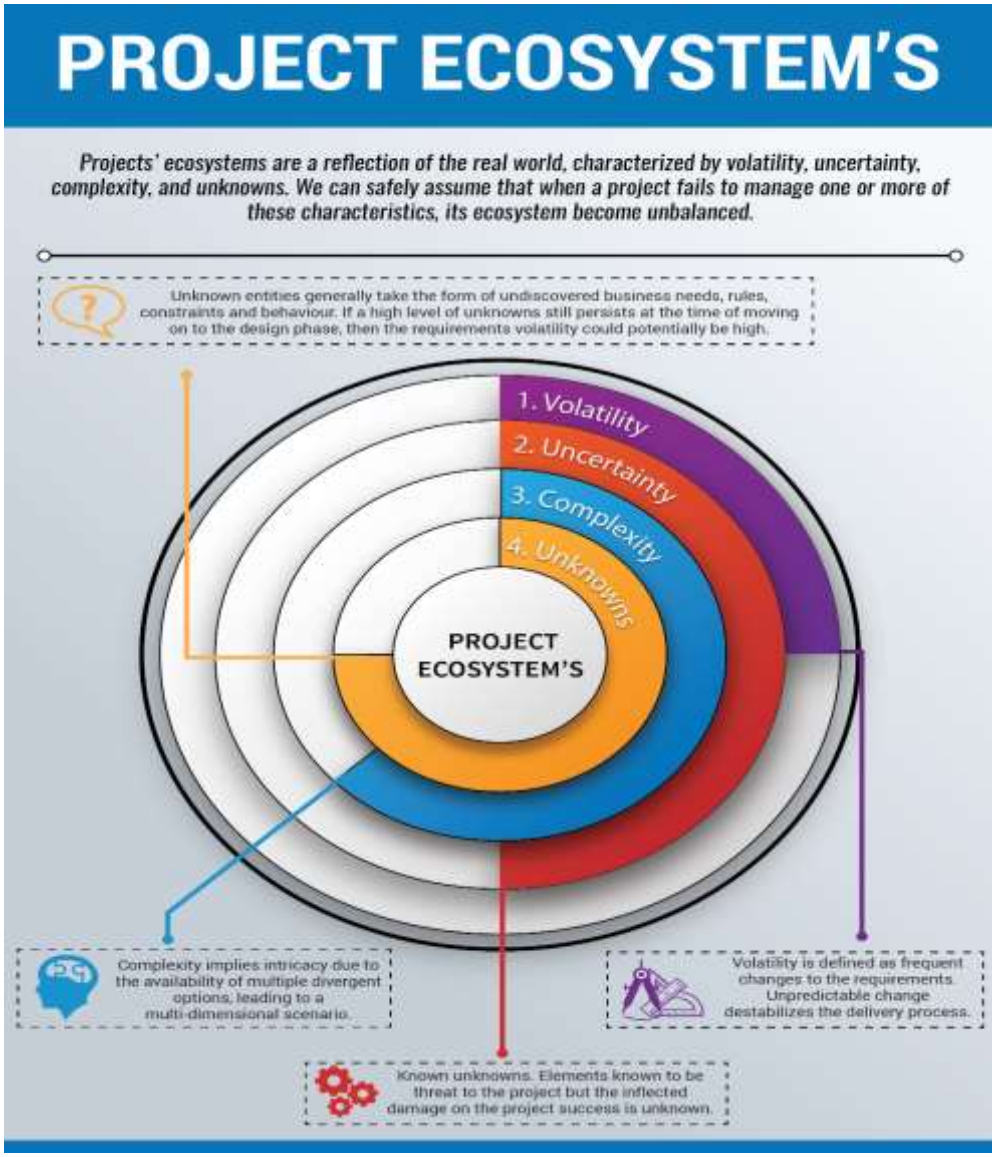

Figure 2: Project Ecosystem Characteristics

The selected six cases 'failed' when their ecosystems became unbalanced, hence survival becomes difficult or the project becomes the victim of its own ambition. Projects' ecosystems are a reflection of the real world, characterized by volatility, uncertainty, complexity, and unknowns. We can safely assume that when a project fails to manage one or more of these characteristics, its ecosystem become unbalanced.

So how did the six cases of this study fail to survive their ecosystems? The table below shows the correlation of the contributing factors and the projects' ecosystems.

Projects	Project's ecosystem's characteristic(s) contributing to the failure	How?
IBM's 7030 Stretch project	Uncertainty Unknowns	The product concept in the case of this project was a critical entity in its ecosystem. The project was to produce a commercially viable product from a blue print concept. From the facts documented about the project, whether the concept of Stretch was to be commercially viable was uncertain, and the level of unknowns to design and manufacture the final products were unknown to the project.
Taurus electronic trading platform	Unknowns Complexity	The requirements are a critical entity in projects' ecosystems. In the case of this project, the transformation was a complex endeavour. In paper-based businesses, vast knowledge of the business rules and processes is unknown as they are usually undocumented.
Knight-Rider's Viewtron service	Uncertainty Unknowns	Whether the concept of Viewtron was to be commercially viable was uncertain, and the level of unknowns to design and distribute a commercially viable product were unknown to the project.
FoxMeyer ERP program	Uncertainty Unknowns Complexity	In the case of this project, the end user was a critical entity in its ecosystem. The end users' perception of the outcome was uncertain.
Sainsbury's warehouse automation	Complexity	The complexity of the business processes was under-estimated.
BBC's digital media initiative	Complexity	The requirements complexity was under-estimated.

Organizations improve their delivery capacity by acquiring knowledge from past experiences. Each project failure must be investigated to deduce the true causes of the failure, hence a

lesson(s) learnt for future projects. Organizations' future projects will have similarities in their ecosystems' compositions as projects' ecosystems are instantiated partially from the organization ecosystem.

Organizations prefer to turn the page after a failure. The assumption that each project is a unique instance is true. However, the project's ecosystem will be, to a great extent, similar for future projects. What made a project fail in its ecosystem is a survival lesson for a future project.

References

1. Flyvbjerg, Bent, and Alexander Budzie. "Why Your IT Project May Be Riskier Than You Think". *Harvard Business Review*. 2011. Web. 13 Jan. 2016.
2. Hardy, Eric. "Forbes Welcome". *Forbes.com*. 2016. Web. 13 Jan. 2016.
3. Widman, Jake. "IT's Biggest Project Failures and What We Can Learn From Them". *Computerworld*. 2016. Web. 13 Jan. 2016.

About the Author

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Adam Alami is a seasoned IT consultant with over 18 years' experience. Business Analysis and Project Management is his passion. His experience revolved around major business transformation projects. He is a versetail IT professional. He accumulated a wealth of cross industry experience with Tier 1 businesses in major projects in the areas of Enterprise Transformation, Integration, Migration, and Systems Modernization.

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