

## MSc. in Management Sciences and Operations Research

**Project:** GSK's IT Architecture - Return on Investment (RoI)

**Sponsor:** Mr Ed Lambert  
Architecture Service Manager  
Global IT Architecture  
GlaxoSmithKline



**Supervisor:** Andrew Martin

### Background:

GlaxoSmithKline (GSK) is a very large, global pharmaceutical business. It undertakes research and development, trials, marketing, production, sales and distribution of pharmaceutical products. It has grown through acquisition and merger to become a multi-billion pound business, with many sites around the world and over 100,000 employees.

More information on GSK can be sourced from [www.gsk.com](http://www.gsk.com)

Due to the size, history and distributed nature of the business, IT is a large, complex and important element of the business, with a sizeable annual spend. There is ongoing pressure to ensure that IT investments provide a return to the business, encouraging IT to manage its own architecture effectively. One of the key roles of IT Architecture is to facilitate the use of a bounded set of technologies and approaches, resulting in synergy rather than disparate development standards and approaches. IT Architecture is not only difficult to enforce, but the assessment of resulting benefits is also problematic. Although costs such as staff cost are relatively clear, there are other less obvious costs associated with these activities. Time-scale is key: Typically IT architecture is a long-term investment.

The aim of the project is to assess the return on investment (RoI) of GSK's IT architecture activity.

### Deliverables:

- Analysis of IT evaluation theory and practice from the literature.
- Framework for a cost analysis of GSK's IT architecture development, delivery and support approach, identifying direct and indirect costs and relevant measures for these.
- Framework for a benefits analysis of GSK's IT architecture development, delivery and support approach, identifying direct and indirect benefits and relevant measures for these.
- Framework for the calculation of the resultant RoI from the above.

- Validation of the above frameworks against a particular topic and / or area, e.g., IT architecture modelling (CASE) tools and / or a specific business unit's architecture function.
- Provide input to the direction of a benchmark analysis of GSK's IT architecture development, delivery and support approach versus that of comparable organizations and best practice, and interpret its outputs. GSK has an agreement in place with Meta Group ([www.metagroup.com](http://www.metagroup.com)) to undertake this piece of work and the candidate would help direct and utilise output from this in their analysis, rather than perform the benchmarking themselves.
- Based upon the output of the framework validation and benchmarking activities, provide recommendations for improving the topic and / or area investigated to deliver a better Rol, along with a suggested roadmap for implementation.
- Present summary of work to GSK's IT architecture council for review and discussion.

It is recognised that this is a complex topic and that the project is subject to time constraints and data availability. Hence the focus of this work being to provide a generic framework to allow GSK to calculate the Rol across its architecture function by identifying what information needs to be gathered and how to get it, and the testing of this framework against a particular topic and / or area for validity.

**Pre-requisite skills and outlook:**

- Appreciation of the corporate role of IT Management.
- Inter-personal and analytical skills.

Interested students should provide CV to GSK with a view to eliciting GSK preferences, and may discuss with Andrew Martin.