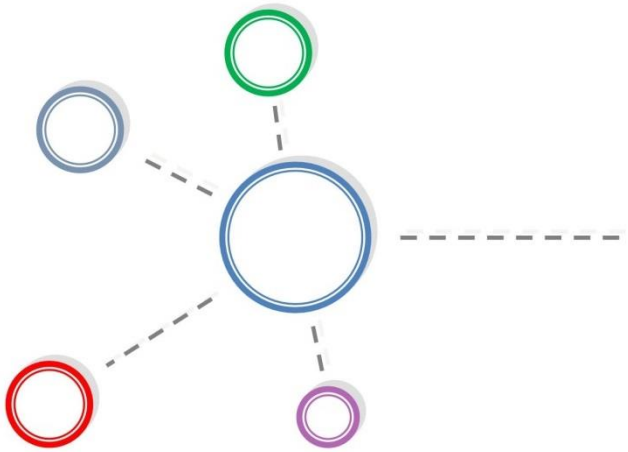
White Paper - Operational Intelligence

Key issues during project implementation

All business and government departments are facing increasing pressure to make decisions faster and to respond to issues immediately. Due to these demands, organisations are turning to Operational Intelligence to help solve these problems, however, what issues have arisen during project implementation?



Fujitsu's Operational Intelligence Team

Fujitsu Australia's operational intelligence team is leading the way in delivering operational intelligence solutions within Federal and State government agencies. Fujitsu has partnered with a number of major vendors in order to delivery customer requirements, including IBM i2 and Palantir Technologies. Whether it is the initial design, implementation, support or user training, Fujitsu is able to provide you a solution.

Introduction

Operational Intelligence (OI) is the ability to analyse data dynamically and in real time. It focuses on specific events at the operational level, and allows organisations to make decisions immediately via pre-defined rules, manually or a combination of both. Often OI is considered a technology problem that can be solved by purchasing additional software or hardware products, however, it is the interaction between the human and the technology that will provide organisations with the greatest benefit. Unlike a number of offerings and solutions available, Fujitsu focuses on the ability to integrate OI systems within an organisation and supports the development and training of analysts to achieve organisational goals.

Major hurdles

Over the years, a number of key issues have appeared that have occurred across a number of projects and agencies. These issues will be broadly described within the paper. The issues described are those that are considered to be unique to the implementation of OI systems, and issues relating to ICT project management, or project management in general are not in the scope of this paper.

Organisational workflow(s)

One of the key issues we have encountered in supporting organisations in developing an OI system is having a clear understanding of how the system fits within the organisation's workflows. For example, does the system support a cyber-security workflow and where within the workflow does the solution fit? Often organisations realise they have a problem and they know all the terms used in the industry and the major vendors, however, they do not understand what to do next and how a solution would be implemented across the enterprise.

This is often caused by organisations placing too much focus on available technologies and buzz words, rather than on understanding their own requirements. At times, software has already been purchased based on perceived benefits without determining if those benefits are required, or how it will be achieved within the organisation's workflow, their culture and their ICT environment.

One solution that has worked very well is by embedding senior analysts, or business representatives within the project team on a full time basis. This facilitates a strong relationship between the business and the project, and ensures that the solution remains business focused.

ICT environment

ICT environments are increasingly complex, often with disparate data stores throughout the organisation holding different pieces of information. For example, for an insider threat scenario, HR systems might hold staff information, Active Directory might hold user access information, syslog might contain user access information etc. A good OI system should be able to access this information in order to support the organisational workflow, but how do you access this information and which part of the workflow resides in the OI system?

Some technologies provide one or more ways to access the data, and there are benefits for each, however, it's important to understand the impact of an individual solution within the broader ICT environment.

For example, duplicating all data from one system to the OI system might provide greater analytical capability, but it comes with all the issues related to data duplication and it also increases the 'time to analysis' compared to on the fly connections. Additionally, an OI system might provide basic reporting functionality with additional data, however, it might not be an actual OI function and is potentially better served in an actual reporting system.

Schema development

The data within the OI system needs to be modelled in a way that best supports the organisational workflow. If the workflow is not very well understood then the data modelling can be very difficult. While having a flexible and easily changed schema certainly helps over the life of the system, it is vital that the majority of the modelling is completed as early as possible. With this base, developers will be able to model data across sources and work with analysts to ensure they are able to meet their workflow requirements.

Large support requirements

OI systems have a long tail of support and maintenance, and are most definitely not a 'set and forget' system. By their very definition, they require real time access to information in disparate data sources and they focus on operational events throughout the enterprise. Not only are the systems they integrate with constantly changing, with new data and upgrades, but the workflows they are supporting are constantly changing.

Due to these constant changes, it's vital that the system remains in line with the changing analytical environments. Without these changes the system will quickly become obsolete or worse, it will hinder the business by restricting their capability. While it is important to maintain a long support tail, it is also important to realise that the solution will never truly be 100% complete. Often it is best to release to users the moment it provides any benefit and continue to work and release enhancements as they are available. If this is not taken into consideration, the problem often changes before the solution is 100% available.

Conclusions

Overall, the ability to successfully implement an OI system relies heavily on the ability for the project team to work towards solving defined organisation workflows, which support a required capability. In order to do that, the organisation needs to understand those workflows and capability in detail to ensure the project remains capability focused. Once the workflows are known, it allows for an appropriate design of the system to be developed.

Operational Intelligence Services

Fujitsu's Operational Intelligence Team is able to support our customers by using our experience in delivering systems Australia wide, and delivering the following services:

Analysis and Design

- Business Analysis
- Solution Architecture
- System Analysis
- Technical design
- Documentation
- Analyst training
- System testing

System Support

- On-going support of the production system.
- Out of hours support.

Development

- Palantir integration and development.
- IBM i2 integration and development.
- Java / J2EE
- Database design and development.
- Hadoop / NoSQL
- Bespoke development.

As well as, software licencing, consulting, programme and project management.

Contact us

For additional information, please contact Operational.Intelligence@au.fujitsu.com

Contact

Fujitsu Australia
Address: Level 16, 15 Blue Street, North Sydney NSW, 2060, Australia
Phone: +61-2-9113 9200
Fax: +61-2-9113 9222
E-mail: Operational.Intelligence@au.fujitsu.com
Website: www.fujitsu.com/au
2015-04-22

About Fujitsu

Fujitsu Australia and New Zealand is a leading service provider of business, information technology and communications solutions. As the third largest ICT company in the Australian and New Zealand marketplace, we partner with our customers to consult, design, build, operate and support business solutions. From strategic consulting to application and infrastructure solutions and services, Fujitsu Australia and New Zealand has earned a reputation as the single supplier of choice for leading corporate and government organisations. Fujitsu Australia Limited and Fujitsu New Zealand Limited are wholly owned subsidiaries of Fujitsu Limited (TSE: 6702).