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## **Business Intelligence and Information Management: its Usage Within Human Services**

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### **1. Introduction**

The Department of Human Services (DHS) is responsible for the development of service delivery policy and provides access to social, health and other payments and services. It was created on 26 October 2004 and integrated the services of Medicare Australia, Centre link and CRS Australia on 1 July 2011 into the Department of Human Services after the Human Services Legislation Amendment Act 2011 was enacted.

The department offers a range of health, social and welfare payments and services through the following Master programs:

- Medicare (payments and services for Pharmaceutical Benefits Scheme, Incentives programs for doctors, nurses, the Australian Childhood Immunisation Register, the Australian Organ Donor Register, etc)
- Centre link (payments and services to retirees, the unemployed, families, carers, parents, people with disabilities, Indigenous Australians, etc)
- Child Support (provides support to separated parents to provide the financial and emotional support necessary for their children's wellbeing)
- CRS Australia (payments and services related with disability employment services to help people with a disability, injury or health condition to get or keep a job, and help their employers to keep their workplaces safe).

To keep things in perspective, for example, the budget estimates of the department for 2013-14 for making payments and providing services to the citizens on behalf of 3<sup>rd</sup> party is in the order of \$158 billion.

The process of effective dispensing of a large amount of payments to its clients base by the Department of Human Services (DHS) and effectively complying with the high compliance standards setup by the Commonwealth government, an effective decision making process is a core requirements for this business to be effectively implemented. To conduct this business and to improve opportunities and performances of these business requirements, it's anticipated that a vital role shall be played by Business Intelligence (BI) within DHS. Within DHS a research is being conducted to effectively implement the Business Intelligence Systems so that the BI setup understands the various environments within DHS and follows systematic information processes.

### **2. Review of Literature**

The term Business Intelligence (BI) represents the tools, systems, methodology and processes that may play a key role in the strategic planning processes of DHS. These systems may allow DHS to effectively gather, store, collate access, analyze and produce intelligence information that relates to the corporate data to aid in effective, efficient, and timely decision-making processes.

In general these systems may perform business intelligence in the areas of customer profiling, customer support, customer risk factor, providers profiling, providers support, providers risk factor that facilitate research, statistical analysis, and compliance satisfaction both at customer and provider levels within DHS.

DHS collects a large amount of data of Australian citizens, service providers, 3<sup>rd</sup> party organizations, interpreters, etc for its business operations. To keep track of this information, DHS relies on databases, data marts, EDW and Teradata. The technical platforms used within DHS ranges from Midrange to Mainframe and use a wide range of software programs, such as SAS, SAP, Web Sphere, Web Methods, CICS, COBOL, MQ etc to access, maintain and analyze information from diverse platforms. Obviously using multiple software programs makes it difficult and challenging to retrieve information in a timely manner and to perform analysis of the data.

### **3. Objectives of the Study**

In order to provide access to data across diverse platforms with DHS and ensure payments are made on time to needy Australian citizens, supporting services are of high standards and to ensure that the compliance targets are achieved, the department has set up a

Key Performance Indicators (KPI) for the compliance side of the business. For instance the KPI for Centre link Master Program is set to be debt under recovery be more than 60% and completed audit and review cases under 2,500 for the Medicare Master program. In order to attain these high standards of compliance KPIs, the department is relying on the leading edge technology of Business Intelligence (BI) and Information Management Tools.

Business Intelligence is not only a combination of software products only, however, to attain optimal results DHS is committed to establish a corporate repository of a set of methodologies, processes, architecture patterns, in combination of leading edge technologies that transform raw data into meaningful and useful information that is used to enable more effective strategic, tactical, and operational insights and decision-making.

The Business Intelligence is being set up within DHS to envisage connected decision-makers not only across all levels of the department but across different Master Programs as well thus resulting in disseminating relevant, timely, accurate and actionable information.

#### **4. Hypothesis**

The customer base for DHS ranges from citizens to health providers to other organizations. It is business critical to provide frequent changing services to all these customers in an efficient, effective and reliable manner.

The Business Intelligence software and applications shall help DHS to provide these services at expected standards, maintaining agility by identifying, aggregating and analyzing data to support quantitative decision making. The intent is that a highly compliance system be built for DHS that it complies with the high standards setup by the Commonwealth to effectively, efficiently and timely dispense payments within needy Australian citizens.

#### **5. Major Findings**

Business Intelligence setup within DHS has enabled its decision making machinery to provide with a scalable decision support systems. Business users at various levels within DHS and its customer base accessing DHS system through mobile, self service channels (Kiosk, web based), have become much more adept in their use of technology, and the speed of business has increased; thus created a need for proper decision support systems within DHS. Business intelligence setup within DHS has had evolved to keep pace, and had now met the needs of both business users and IT professionals. This setup with DHS is a trickier one than it sounds, as these two groups (business and IT) appear to approach the concept of BI from diametrically opposed perspectives. The requirement is that the business users within DHS expect the freedom and ease of use to access BI solutions that provide them intelligence reporting to comply with compliance of the business. Whereas IT's expectation within DHS are around the level of reliability, performance, scalability, availability and security from all types of enterprise software.

A reliable foundation is addressed and is critical to ensuring sustainable benefits from BI within DHS. With the right technology, redundancy and proper load balancing the solution using BI services is evolved and cater for the real time needs of the citizens, health providers and other organisations. Effective BI within DHS has given business users the freedom to collaborate and extend BI so that they can share insights, achieve alignment and make better decisions faster. Today, DHS rely on Business Intelligence solutions and systems to cut costs, set targets and allocate the resources to achieve goals. Predictive Analytics, Budgeting & Planning and Financial Performance Management are some of the key Business Intelligence Software aspects those are considered within DHS to support quantitative decision making.

#### **6. Important Suggestions**

The BI setup within DHS has achieved the following five primary factors to achieve government's agenda, goals and objective setup:

##### *6.1. Inform*

Facilitated to deliver the right information to the right people in the timely manner within DHS across various Master Programs. Information held within DHS databases is the most important asset for the department. This data is collected from day-to-day operations from various citizens, service providers, etc. This data is stored in data warehouses and accessed by the enterprise resource planning systems or other sources to provide meaningful form to the data. It is critical for understanding and driving business performance within DHS. Access to the right information is now even more crucial with the growth of the web and its vast store of data on customers and providers.

The key to maximising information value is to get the information to where it is needed at the right time. Many of the DHS Customers get to access their data through self service and or mobile channels.

The right BI software adapted within DHS does this in a way that users can quickly understand and trust. This is achieved using a unified, uncluttered BI workspace that delivers data through customisable reports and dashboards, and communicates complex information quickly with maps, charts and other graphics.

##### *6.2. Engage*

Make the best use of the resources within DHS that is driven to outperform. Delivering time, relevant information is important, but real BI begins with users who are engaged in exploring, analysing and using the information. DHS does business in partner with other departments and dispense payments on behalf of 3<sup>rd</sup> party organisations. So its business is relied on for both information and insight to understand the tactical and strategic implications.

The goal of DHS is to collaborate with other departments and create a culture of actively engagement with information to contribute actionable insights. This requires a BI solution that goes well beyond the traditional toolset, and gives users the ability to analyse situations immediately and consider possible outcomes. This requires easy understanding of tactical and strategic implications of proposed actions, quick analysis of large data sets, and fast and predictable response times.

### *6.3. Align*

Accelerate the decision making process within DHS. The ultimate goal of implementing BI within DHS is to help implement a better decision support system. As the best decisions are rarely made in isolation, multiple inputs are shared, analysed and agreed on. A collaborative decision-making process is aligned to tactical decisions with strategic goals, and tie business processes together across DHS various Master Programs boundaries.

This requires two types of alignment – vertical alignment down the decision chain starting at the executive level, and horizontal alignment that where functions collaborate and make strategic decisions across processes and departmental boundaries (Centre link, Medicare, Child Support Master Programs). Built-in collaboration and social networking is essentially used to exchange ideas and knowledge.

### *6.4. Agile*

Enable IT to respond promptly to changing business demands. DHS has built common business capabilities and reusable IT components using various architecture patterns. This forms a reliable foundation that addresses both current needs and is capable to address future requirements in agile manner so that critical business functionality can be delivered within no time. This ensures sustainable benefits from BI within DHS. With the right architecture, the solution is evolved with the needs of DHS, without placing extra burden on IT departments.

### *6.5. Optimise*

Enable IT to respond effectively, efficiently and reliably to changing business and users' frequent demands.

## **7. References**

1. Source of KPIs, Payments, etc. – Department of Human Services Resource Statement – Budget Estimates for 2013-14.