Case Study:
A "Data Warehousing Approach" Driven Labor Market Decision-Making in Kuwait

Dr. Abdullah Sahar[1], Dr. Salahideen Alhaj[2] , Adel Khadada
[1]Director / Central Statistical Bureau (CSB), e-mail: a_sahar1961@hotmail.com
[2]Project Coordinator / Labor Market Information System, e-mail: salhaj@yahoo.com

Abstract

The Labor Market Information System (LMIS) project which aims at the implementation of a more efficient way of : Collecting Labor market data, Warehousing, and developing Policy-Based Indicators. Foresees to make better use of data that already exist in the Statistical Information Systems (SIS) - distributed within different agencies and ministries at Kuwait- including the possibility of labor market estimates and occupations projection .To create fully integrated data sets for Labor Market and Labor Statistics at micro level, this paper/project proposes a ' data warehouse approach' to statistics driven Labor Market Decision-Making in Kuwait .

Keywords: **[Data integration, Labor Statistics, Micro level.]**

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1. Introduction

Data warehousing projects are frequently side-tracked or derailed completely by non-technical factors, Because data warehouses are infrastructure for sociotechnical systems. Politics and the exercise of power are inherent in data warehousing projects, and data warehouse designers have to adopt work practices and methods from non-technical disciplines, think of themselves in new ways, and employ some fairly sophisticated qualitatively sociological methods in order to optimize the chances for successful deployment of data warehouses as in Marc (1997). Technically different people have different definitions for a data warehouse. The most popular definition came from Inmon (1995) defines a data warehouse as " a subject-oriented, integrated, time-variant, and nonvolatile collection of data in support of management's decision-making process ".Kimball (1996) provided a more concise definition of a data warehouse, states that a data warehouse is " a copy of transaction data specifically structured for query and analysis ". Greenfield in (1996) " analysis " with " reporting ". Ahmad and Ahmad

(2010) propose the crucial role of data warehouse for statistical bureau, " The development of data warehouse for an organization helps in storing the statistical information that can be helpful in decision making process later on ". The strategy of Information and Communications Technology (ICT) system development in the Central Statistical Bureau (CSB) is targeting two frameworks: Meta-Information Framework ensures the systematic use of meta-information inside and outside of the statistical information system and provides tools for the security of the internal and external integration of the statistical information system. Information-Technological Framework to enhance CSB role, improve decision making, increase productivity and improve access to statistical information. This project employs the fulfillment of this strategy. Information-Technological Framework: supports the functionality of individual processes necessary for the fulfillment of the framework content, also includes tools for: data collection and their elaboration, implementation of mathematical models and mathematical-statistical methods and system of confirmation, release and dissemination of data. The paper structured as following: section 2 Problem Statement and Context. Section 3 Methodology. Section 4 Conclusion closing the paper.

2. Problem Statement and Context

Development and Sustainability is what we all do in attempting to improve our lot and measures impacts or success in relation to three dimensions : environment, social systems, and economy as in UNDP (2011) on one hand. On the other hand, the demographic and socio-economic trends in the GCC (Gulf Cooperation Council) countries are crucial issues. The two most important aspects of demographic development in Kuwait are : The first is the natural increase of the indigenous population (crude birth and death rates, infant and child mortality rates, and the distribution of the population by age) and the country's fertility policy. The second is the growth of the foreign population in Kuwait (which from the early 1960s onwards formed the majority of the total population), and the country's migration and labor policies as said in Onn (1998). As per the Central Statistical Bureau records 64% approximately of total population are foreigners (June /2011) in a small country like Kuwait which raise up the need to develop a labor market policy-based indicators. A professional review at 2012 conducted for labor market information (LMI) in Kuwait indicated that no one of relevant Kuwaiti Agencies has fully integrated data sets for Labor Market and Labor Statistics or the full picture (i.e. provides quantitative and the qualitative information and intelligence on the labor market that can assist labor market agents in making informed plans, choices, and decisions related to their business requirements, career planning, education and training offerings, job search, recruitment, labor policies and workforce investment strategies) for the Labor Market Information. A Labor Market Information System (LMIS) is a set of institutional arrangements, processes, and tools for the collection, integration, analysis, support to policy formulation, and dissemination of labor market information. A LMIS will assist in minimizing information gaps that lead to mismatches and distortions; and to make available signals of supply and demand for skills to the various stakeholders responsible for the formulation and implementation of human resource development and

employment policies and programmes, and private sector decisions. The LMIS would also provide policy makers the ability to: (i) monitor the short term developments in the labor market, labor market patterns, the impact by events/crisis, changes in unemployment rates among nationals, movement of wages, etc; (ii) monitor the underlying shifts in the workforce: the skills dynamics in an economy, and how education and training systems can respond; (iii) develop targeted and evidence-based policy interventions; and (iv) assess the impact of policies on specific groups – i.e. nationals, expatriate workers, youth, women.

Methodology

Practically we develop our methodology which consist of the following steps; **1a:** Labor Market Situation Analysis: Professional questionnaire used to thoroughly analyze all LMIS-related labor market databases Kuwait-wide. **1b:** Field Visit to relevant agencies / Ministries and dedicate the time necessary to examine – in detail – the data and connectivity methods available at each, in addition to the database structures and technologies used. **2a:** Developing Data warehouse Approach at CSB. **2b:** Design data Warehouse. **2c:** Design Mapping table, a mapping of Labor Market Data (LMD) for each of the Agency / Ministry that captures the available data, time series of data, database technology used, database structure/ER diagrams (to the extent possible), development applications used, and connectivity options available for each agency. **3:** Labor Information will be stored centrally in the data warehouse and their release will be done through a dependent Data-mart (including public database), see figure 1.

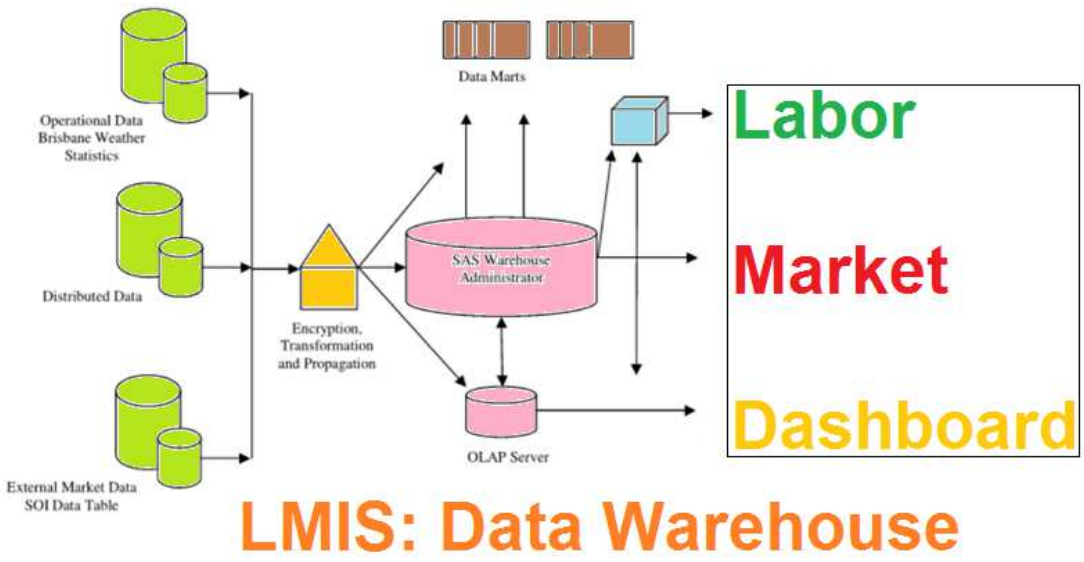

Figure 1:Data Warehouse Approach

Conclusion

The project not yet completed, LIMS will analyze Labor market database information from multiple database systems at one time, and develop online indicators.

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