Chapter 11

Diabetes Preventive Knowledge Management System for Recommending an Ice Cream to University Grads Based on Their Life Style and Eating Habits

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ABSTRACT

Lifestyle and eating habits with the special focus on young university grads are considered to design and develop a Knowledge Management System (KMS). An appropriate ice cream is suggested via KMS to university grads, which keeps blood glucose level in control and acts as a diabetes preventive KMS. Designed KMS is based on effective Data Science (DS), Big Data techniques considering standalone and proposed distributed versions of Analytical Hierarchy Process (AHP), Monte Carlo AHP (MC-AHP), Goal Programming (GP), K-Means and Artificial Neural Network (ANN) Clustering and Collaborative Filtering (CF). Incremental-learning gains and updates knowledge at each level of applied DS techniques. Developed KMS analyzed ice cream consumption pattern, lifestyle & health condition attributes of university students to promote a novel KM strategy in terms of ice cream recommendation and can give altogether novel trigger to health-conscious students. The confluence of health, students, ice creams and DS is achieved and discussed in this chapter.

INTRODUCTION

According to article on Express.co.uk website, Sunlight, Vitamins and regular exercise can prevent and cure diabetes. In relation to thoughts portrayed by Express.co.uk, Robert J. Hastings, Tinyburg Tales quoted that:

...stop pacing the aisles and counting the miles. Instead, climb more mountains, eat more ice cream, go barefoot oftener, swim more rivers, watch more sunsets, laugh more and cry less. Life must be lived as we go along.

Life at University is a key instance point in an individual’s life. It represents a stage of increased responsibility about food choices and healthy lifestyle practices. Young adults often lack the experience of food shopping, meals planning etc. The changes in living arrangements determine food choices of university grads. It may also depend on the type of stream in which they are studying. Medical students are aware of healthy eating habits. There are possible chances that they will bring those in their daily routine. It is likely impossible in the case of engineering students, the other stream students. Deficit knowledge about healthy food choices affects eating habits of university grads.

Home away eating, snacking, frequent consumption of ice cream is unhealthy. Figure 1 presents ABCD framework of unhealthy eating habits introduced in this research. Healthy eating does not become routine in sudden. It takes a time to become a part of a daily schedule. Good or awful habits can twist in anything, including eating. No contemplation is set to where, when, and what is to eat. Eating habits is a major worry among university grads. It is the determinant of their health status. Unhealthy eating habits may lead to metabolism disorders like diabetes, over the years. So, accurate eating habits in young adults are useful for future health and well-being.

Figure 1. “ABCD framework of unhealthy eating habits introduced in this research” TM