Study of the cause-and-effect relationship between the six axes of the new Balanced Scorecard model: Application of the DEMATEL method for the case of a Moroccan Medical Analysis Laboratory

Faiza AZOUR, Haj EL MOUSSAMI
Mechanics & Integrated Engineering, ENSAM School, Moulay Ismail University,
P.O. Box 15290, Al Mansour, Meknes 50000, Morocco
azour.faiza@gmail.com, hajelmoussami@yahoo.com

Latifa EZZINE
Modeling, Control Systems and Telecommunications, EST School, Moulay Ismail University,
P.O. Box 3103, Toulal, Meknes 50000, Morocco
latifae@yahoo.com

Abstract

The new Balanced Scorecard (BSC) model is an effective tool for the evaluation and monitoring of the financial and non financial companies performance. To improve its efficiency, we have added two new perspectives: health and safety at work and the environment. In order to define the cause-and-effect relationship between the six perspectives of the new BSC model, we have selected a case study of a Moroccan medical analysis laboratory. Indeed, this laboratory is working to consolidate its leadership in its field or sector of activity at regional and national scales through its commitment to the ISO 9001 quality management system and a steady improvement of its performance and efficiency. In this context, it implemented a system of performance indicators. Accordingly, we classified these indicators according to the six axes of the new BSC model. Then, we studied the cause and effect relationship between the six perspectives using the DEMATEL method (Decision-Making Trial and Evaluation Laboratory).

Keywords
Balanced Scorecard, Moroccan medical analysis laboratory, DEMATEL method, perspectives.

Biographies

Faiza AZOUR is a PhD. Student at ENSAM School (Ecole Nationale Supérieure d’Arts et Métiers de Meknès), Moulay Ismail University, Morocco. She received her engineering degree in Industrial Engineering in 2015 from the ENSAM School. Her current research focuses on health and safety, environment, evaluation of companies’ performance and the renovation of the Balanced Scorecard, etc.

Latifa EZZINE is a Professor at Department of Industrial Engineering, ENSAM School (Ecole Nationale Supérieure d’Arts et Métiers de Meknès), Moulay Ismail University, Morocco. She obtained her Ph.D. Degree in 2010 from the Faculty of Sciences, Moulay Ismail University, Morocco. Her current research focuses on statistics and artificial intelligence, modeling and optimization, control systems and telecommunications, etc.
Haj EL Moussami is a Professor at Department of Mechanical Engineering, ENSAM School (Ecole Nationale Supérieure d’Arts et Métiers de Meknès), Moulay Ismaïl University, Morocco. He obtained his Ph.D. Degree in 2003 from the ENSAM School (Ecole Nationale Supérieure d’Arts et Métiers de Bordeaux), France. His current research focuses on computer-aided design and manufacturing, manufacturing processes, mechanics and integrated engineering, tribology, etc.