

Continuous Performance Measurement using Distributed Performance Knowledge Management System: A case study of Coca Cola Enterprise Ltd

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Abstract

Measure the most critical processes and improvement for better solution is key indicator to survive in competitor market. Performance management and Knowledge Management provide a best solution for continuous improvement. The paper assess & review the enabling factor of Coca Cola Enterprise (CCE) Ltd for the implementation of the distributive knowledgeable management system with performance measurement tool (balance Scorecard) for continuous Improvement. The study has been carried out by conducting literature review, questionnaire survey, structured interviews and case study. On the basis of outcome of the research strategies, the framework has been devised for implementation. The Distributed Knowledgeable Performance Management System (DKPMS) has been implemented using database. The different factors have been analyzed on suitable sample data and certain conclusions have been derived using proper statistical methods. In the nutshell, DKPMS depicts optimistic effects on employee & customer satisfaction, mission, vision, values & Strategy etc and move CCE towards business excellence, defect free environment and on continuous improvement.

Key Words: Performance Measurement (PM), Balance Scorecard (BS), Performance Management system implementation Assessment framework, Performance Distributed Knowledgeable Performance Management System (DKPMS).

Introduction

Performance measurement (PM) is the process of quantifying past action (Neely, 1998). It is the process of ensuring that an organization pursues strategies that lead to the achievement of overall goals and objectives (Nanni *et al.*, 1990). PM is a key agent of change (Brignall, 1991). PM plays a vital role in maintaining attention on changing customer requirements and competitor actions. Performance measurement is a key factor in ensuring the successful implementation of an organization's strategy (Fitzgerald,1991, Neely 1998).

The use of key performance indicators (KPI's) at the organizational level is based on the critical success factor (CSF) concept (Rockart 1979).Balanced scorecard, originally developed as tool for performance measurement at the organizational level, has been expanded to include critical success factors (Kaplan and Norton 1993).

The main aim is knowledge sharing, knowledge creation and knowledge conversion/innovation. KM promotes an integrated approach to identifying, capturing, retrieving, sharing and evaluating an enterprise's information assets (Skyrme, D.J., 1997-9). The Information Technology is energizing the growth of such skill, making it easier to expose intellectual property and handling the collection and

distribution of rights knowledgeable information (Skyrme, D.J., 2002). In the era of technology and data base DKPMS is the best approach to achieve excellence level in organization. Manufacturing and distribution distributive knowledge management along with performance management is the only way to meet the requirement of the customer and society.

Two frameworks, one for effectiveness of DKPMS evaluation and development according to different enabling factors and second one for the implementation of the DKPMS has been developed. DKPMS is used for collecting, analyzing, reporting, and making decisions regarding all performance measures within a process with complete history of the particular processes. The effectiveness of the DKPMS has impact in transforming the culture of quality management. DKPMS provides quality information that will have timeliness, clarity of purpose, correct and precise, provide information, and reflect process visibility and culture of continuous improvement.

Coca-Cola Enterprises Ltd, a UK subsidiary of Coca-Cola Enterprises Inc. Coca-Cola Enterprises Inc. is the largest bottler and manufacturer of Coca-Cola brands in the world. In Great Britain, Coca-Cola Enterprises Ltd manufactures approximately 240 million cases of product every year, 6 manufacturing sites, 7 distribution sites, largest plant in the world at Wakefield. CCE adopt TQCCMS (Total Quality Coca-Cola Management System), dedicated to attain consistent improvement. The aim of the study include to obtain the effects of DKPMS implementation on business performance in coca cola and to drive a DKPMS implementation System for coca cola.

Performance Measurement

Performance Measure means to measure costs, quality, quantity, cycle time, efficiency, productivity, etc., of products and services. Measurement of performance normally based on quantitative (report) base in which targets and objectives are established and accessed. Measurement is an organization wide phenomenon and such measure are inter-dependent and their aggregate contribution will reflect the effectiveness of the total company's effort (Zairi, 1993). Performance measurement is not simply concerned with collecting data but also associated with predefined performance goal or standard. Performance measurement is better thought of as an overall management system involving prevention and detection aimed at achieving conformance of the work product or service.

Balanced Scorecard

Balance Scorecard is an important approach for measuring and managing the most critical processes in organization. Scorecard covers all aspects of the organizational behaviors and the stakeholders according to growth, legislation, market, competitors, product growth, customer expectation, customer satisfaction, etc (M. Schneiderman, 1998). The balanced scorecard methodology, as with most performance management methodologies, requires the creation of a vision, mission statement and strategy for the organization. There is the fundamentals for extracting the appropriate set of BSC metrics from the near infinite list of possibilities that still exist even after the vital few processes are identified. Finding those leveraged internal process measures is key in achieving a successful BSC implementation (Michael Bourne, 2001).

Research Methodology

The research strategies adopted include literature review, interviews, questionnaires and the case study. Therefore the strategy adopted is qualitative as well as quantitative in nature. Distributive knowledgeable performance management and the continuous improvement through IT as an enabler is conducted through literature review. What are the effects of PMS (DKPMS) implementation related to enablers on CCE performance is basically the verification according to CCE so for this questionnaires strategy is adopted. Structure interviews are exploratory in nature to find out what the key requirements according to customer are and how strategy and process are related with each other. Interviews also define the priority of the CCE processes according to different perspectives and Balance Scorecard. Case study has been used to develop a DKPMS according to frameworks, enablers, key customer requirements, customer strategies, processes priority and Key performance indicators. Research methodology adopted in this research is basically qualitative and quantitative in nature.

Proposed Frameworks for Performance Measurement System

DKPMS implementation is based on the two-way structure equation framework working technique. Path of the framework and the structure framework are estimated concurrently and discretely. DKPMS implementations have two kinds of variables: Independent and cause variables PMSI1, PMSI2, PMSI3, PMSI4 and dependent and effect variables BPC1, BPC2, BPC3, and BPC4. In first the framework (Figure 1) shows the independent variables assessment about the DKPMS related to PMS implementation. The Second framework (Figure 2) shows the independent and dependent variable assessment between the DKPMS implementation and Employee, Customer satisfaction, and CCE Strategies. Framework (Figure 1) contains 4 independent variables DKPMS, employee & customer satisfaction. Employee satisfaction measured by 0-10, DKPMS has seven items, customer satisfaction measured by two items and strategy of CCE contains five items. These four dependent variables are represented as BPC1, BPC2, BPC3, and BPC4, respectively.

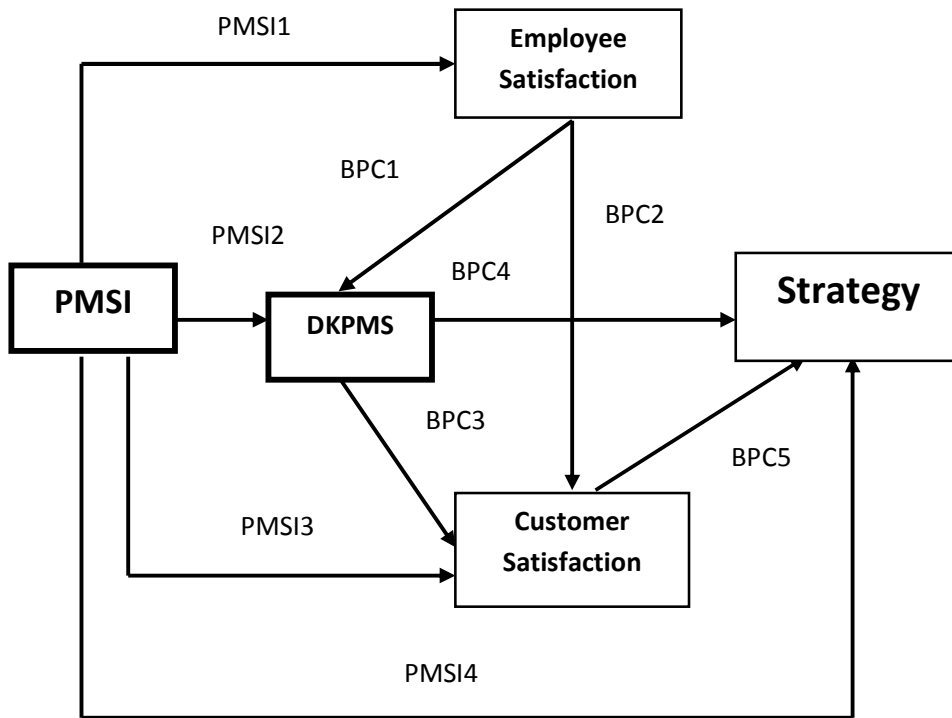


Figure 1: Framework of Performance Management System for DKPMS Implementation

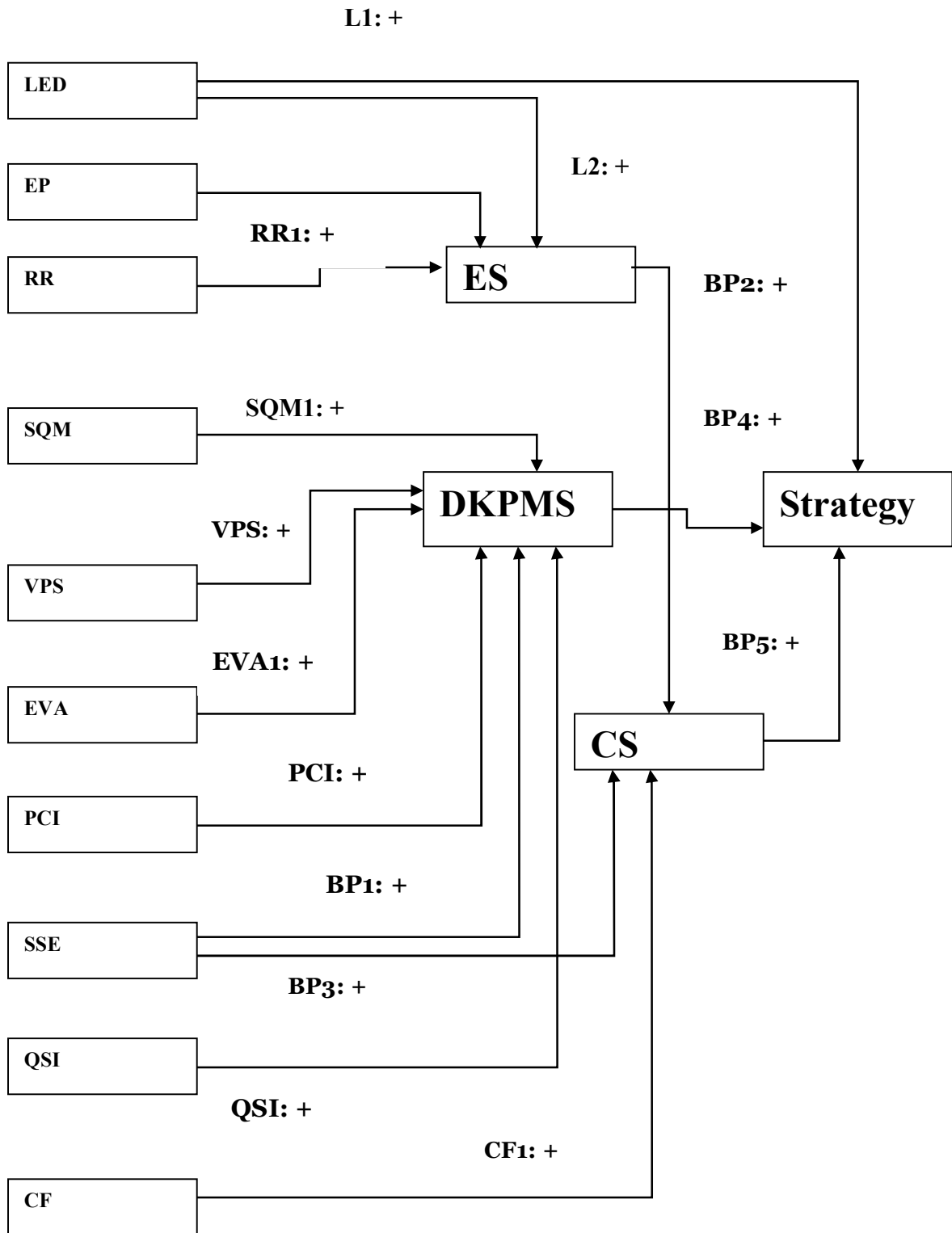


Figure 2: DKPMS and Enabling Factor Framework

DKPMS Implementation

The DKPMS is implemented to provide the facility to the organizations having their network of department and intends to manage the whole network from its head. Through this software the performance Management system (Balance Score Card) related to any Site can be available.

Distributed Knowledgeable Performance Management System has different functions, some main include operation about KPI, New Prospective, BSC Reports, Distributive BSC System, Final PMS Reports, KPI's Search Facility, Distributed QFD, Distributed BSC. The tools for implementation are JDK, EJB, Java Swing, Oracle and WebLogic. The architectural of DKPMS is shown in figure 3.

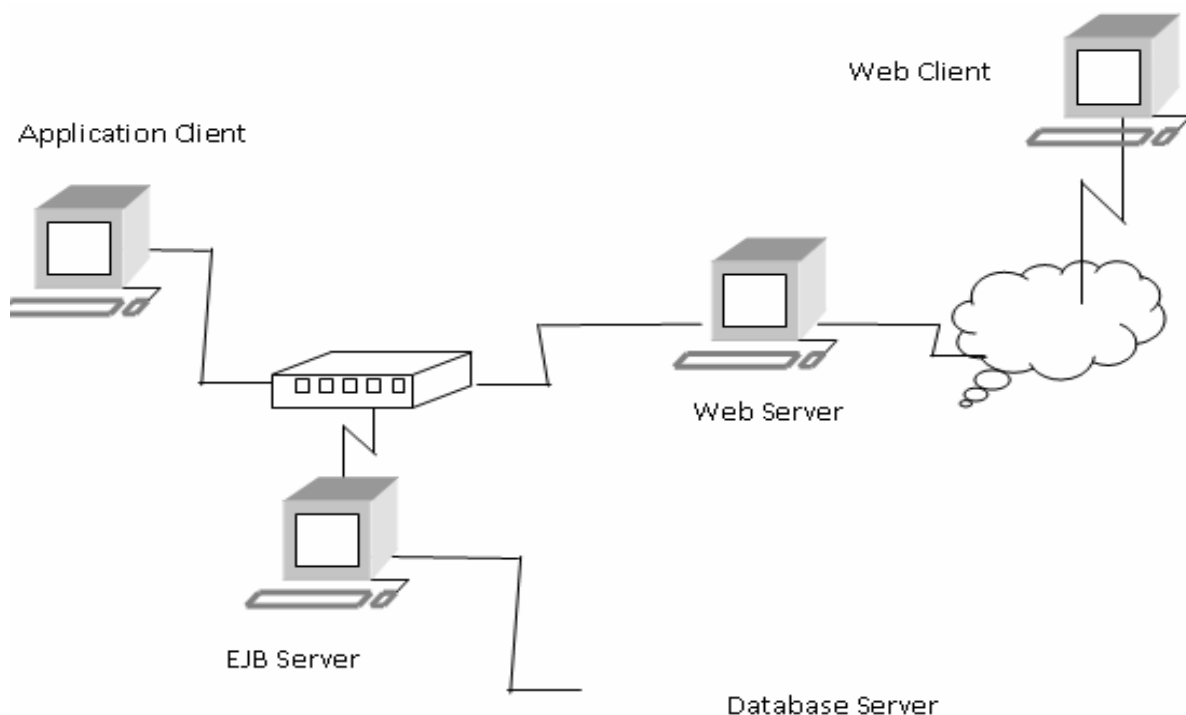


Figure 3: Distributive Knowledgeable Performance Management architecture view

Results

The study find out some practical implication: First, PMS implementation shows optimistic effect on employee satisfaction, customer satisfaction and CCE strategy. Second, leadership must show their commitment and involvement in development and deployment of DKPMS with employee training and development for continuous improvement. Third, it is not necessary that all CCE enabling factors present to ensure the success of DKPMS deployment. Finally, in this study some hypothesis are not confirmed, disconfirmation do not imply these paradigm are unimportant. CCE should identify the problem area and implement Performance management tool for continuous improvement.

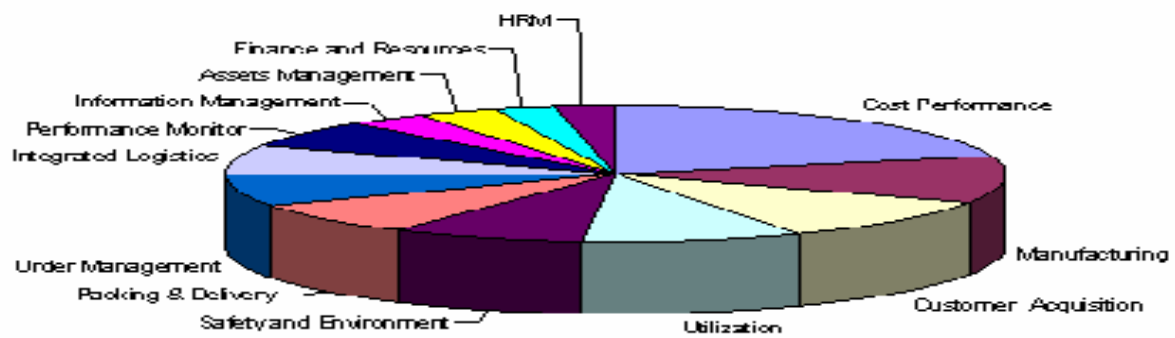


Figure 4: Process Priorities for Operational Excellence

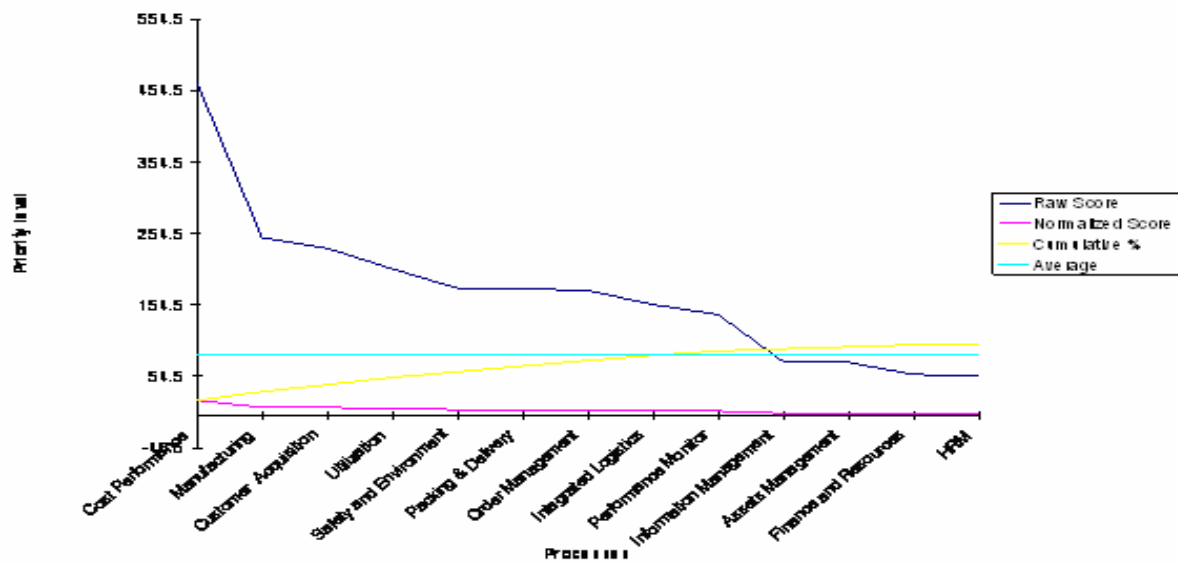


Figure 5: Process Priorities for Operational Excellence

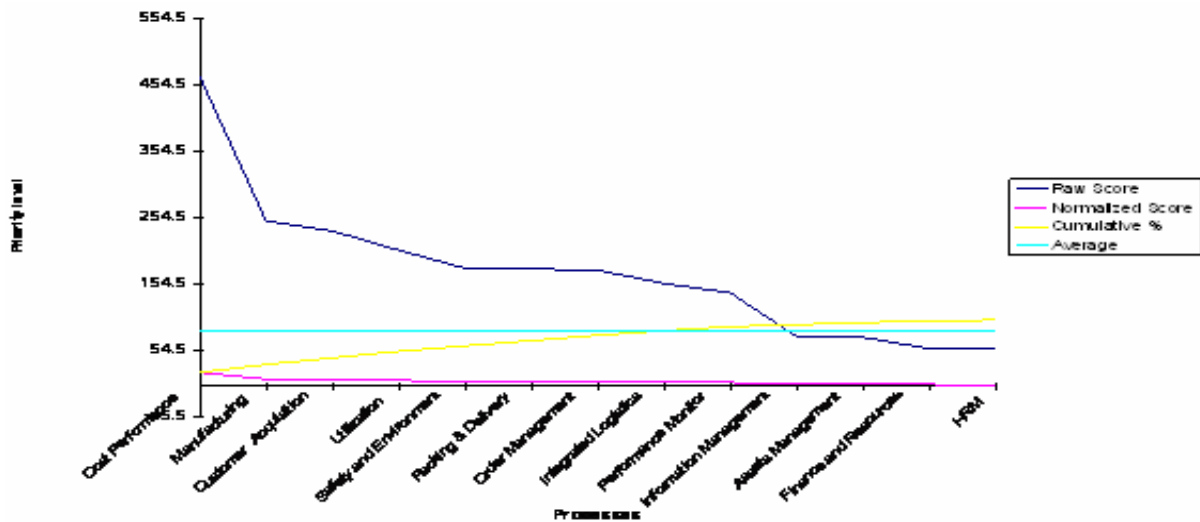


Figure 6: Process Priorities for Product Leadership

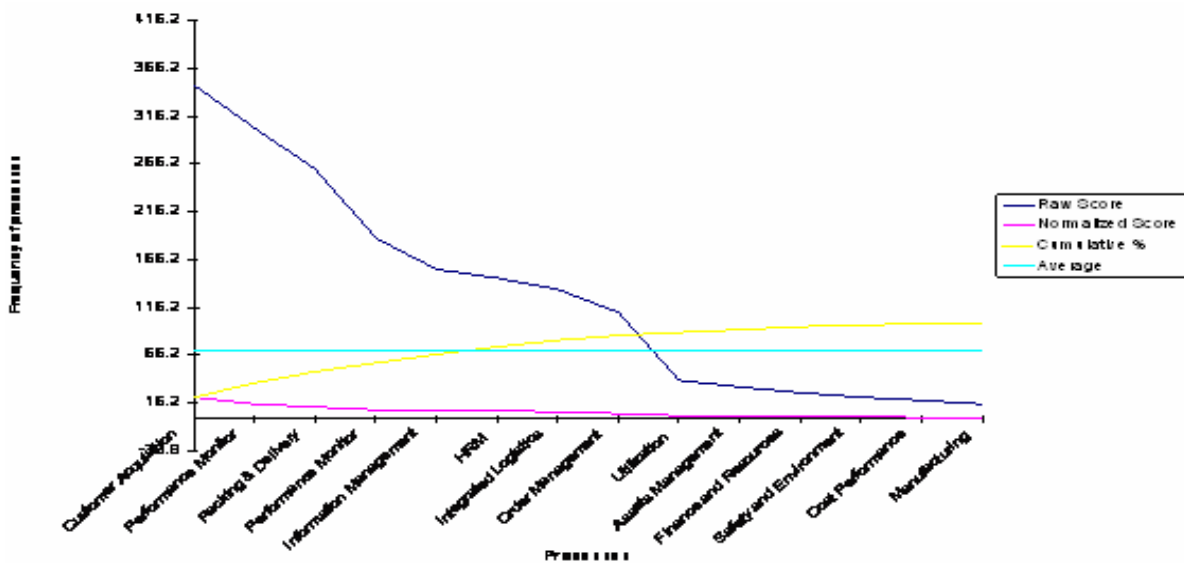


Figure 7: Process Priorities for Customer satisfaction

Conclusion

Four paradigm of performance management system implementation are acknowledged for CCE; DKPMS, Employee satisfaction, customer satisfaction and Strategy. Several conclusions have obtained from the evaluation of frameworks and development of BSC, few are listed follows: (1) PMS implementation has positive effect on CCE Performance and continuous improvement. (2) PMS

implementation has positive effects on employee & customer satisfaction, mission, vision, values & Strategy; (3) Leadership has positive effects on employee & customer satisfaction and mission, vision, values & Strategy; (4) Employee participation, recognition and reward have positive effects on employee satisfaction; (5) Customer services has positive effect on CCE Performance, Production, utilization, line performance and manufacturing; (6) Vision and Strategy has positive effect on distribution, overheads, yield and targets; (7) performance management shows optimistic effect on strategy & continuous improvement; (8) Customer focus shows optimistic consequence on customer satisfaction.; (9) Employee expectation and contentment shows optimistic effects on attendance, labors utilization, CPVD; (10) Product quality shows optimistic effects on CPMU and process capability; and (11) Cost performance has positive effect on manufacturing, packaging, Warehouse performance, cost per case/pallets.

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