



TRANSACTIONS FROM
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Education 2012

Elementary QFD: Using QFD to Assess and Evaluate the Learning Environment of a Private School Library and to Systematically Engage an ISACS Review

Ken Mazur, QFD Black Belt®, Japan Business Consultants (USA)

This paper reports a Modern Blitz QFD® application in a non-traditional customer/product model – a school. Emerson School, located in Ann Arbor, Michigan, is in the midst of undergoing a review by The Independent Schools Association of the Central States (ISACS). The project goal was to identify key customers and translate their Voice of Customer as well as ISACS criteria into true customer needs.

Often organizations act on a situation without fully determining the true needs of stakeholders that would reveal the important context or unstated factor, leading to inadequate solutions or even exacerbated situations. This occurred several years ago. QFD Gemba study revealed the largest and unexpected hindrances to the current learning environment in the library media center. These observations and customer verbatims were translated into true needs and fully ordered using paired comparisons in the Analytic Hierarchy Process (AHP). Finally, the highest ranking needs were evaluated on a systematic level, addressing potential causes for concern such as difficulties of implementation, perception of teachers and students, as well as resources like cost, time and effort.

Keywords: Blitz QFD®, gemba visits, VOC translation, AHP, ISACS review, defining customers, elementary school, learning environment

Information Technology 2012

Change Fix Model

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Issues that add complication to IT projects include volatility of customer requirements and assessing risks involving changes. The Change Fix Model aims to improve agility of the estimation by using lean and QFD tools, enabling assessment of the impact of a change into the entire software lifecycle, starting with a regression model for establishing the relationship between impact of change and additional effort for implementing the change.

A major player in communications was facing cost and cycle time challenges due to quality and volatility of the requirements. The end users faced issues in the features, and integration suffered many functional defects, as a result. Upon a root cause analysis, management wanted a mechanism to measure the volatility and score the quality of the requirements with respect to the importance of prioritizing and baseline requirement changes in agile as well as a non-agile environments. Using a CTQ drill down tree, which is one of the mechanisms to implement QFD, the paper is the first of its kind to measure the impact of a change by using a regression model.

Keywords: Change Fix Model

Political QFD 2012

QFD and Politics —A Sure Way To Start An Argument

Carey Hepler, QFD Black Belt®, 2010 Akao Prize recipient, Solantic Urgent Care (USA)

First of its kind, this paper examines using QFD in a political campaign. QFD is the art and science of taking the voice of the customer (VOC), and, more specifically, the top needs of the targeted customer segments, into consideration before developing a product or service. Can this technique be applied to a political campaign? This paper addresses this lofty question with the specific steps of using Modern Blitz QFD® tools for an actual election campaign by his wife Ruth Ann for a Florida county judgeship.

The primary focus of this paper is to understand how to: 1) select target segments; 2) use the voice (top needs) of the target segment customers to develop the strategy; 3) create messaging; and 4) deploy the messaging to the targeted segments. This presentation will present the QFD analytics and tools used to understand the constituents' VOC and formulate the campaign strategy deployment. Carey's QFD application is solid and innovative. It deploys downstream using the data to make strategic and operational decisions. For example, what sort of true "customer needs" can be identified from this verbatim voice of voters — "what do you think about the Chick-fil-A case?" and then what kind of a campaign strategy and slogan should be deployed?

Keywords: political QFD, election campaign, voice of constituents, target segments, political messaging, strategy

Telecommunications 2012

Repertory Grid – Potential for Requirements Management in the Quality Function Deployment - An Example of the German Smartphone Market

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Integration of cognitive psychology science, the Repertory Grid Technique (RGT), into QFD is proposed. In evaluating quality/performance of a product/service, customers follow unconscious personal perceptions, besides consideration of physical properties such as size, color, functions, etc. It is these unconsciously perceived characteristics that play an important role in the decision making process.

Based on the Personal Construct Theory that contends that people experience, organize, and describe their environment in terms of cognitive personal concepts, the RGT was initially used in psychological diagnosis but has evolved to a set of general guidelines used in a wide variety of application domains, including environmental studies, education, healthcare, business, and it can be useful in identification of customer requirements in QFD analysis. Using a case of German smartphone market, this paper introduces RGT and show how it can be used in QFD analysis.

Keywords: QFD, Repertory Grid, voice of customer , customer requirements

Implementing Quality Function Deployment to Improve Service Quality and Customer Satisfaction: A Three Stages Empirical Approach in Jordanian Mobile Telecommunication

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The purpose of this study is to develop a conceptual model that integrates the SERVQUAL Gap model and QFD which would, through identification of attractive attributes, highlight the weaknesses to overcome and innovative services to implement in the future by the telecommunications industry in Jordan. This industry is vital to Jordanian economy and has become highly developed in recent years.

The first stage involved designing, administering and analyzing the SERVQUAL framework questionnaire. The study population comprises all Jordanian mobile telecommunication companies (Zain, Orange, and Umniah) located in Amman, the capital of Jordan. There is a gap between expectations and experience in all service quality dimensions. The QFD Model will be used to close these gaps.

Keywords: service quality, Quality Function Deployment, customer satisfaction

Transportation 2012

Going to the Gemba: Number Two with a Bullet

Jack B. ReVelle, Ph.D., ReVelle Solutions, LLC (USA)

A case study of China's high-speed rail, this paper will report the 'gemba' study to capture the VOC for the second generation bullet trains being developed by Tangshan Railway Vehicle Company and the Chinese Ministry of Railways. QFD was selected as a way to address the design deficiencies (such as quality and safety) manifested in their first generation bullet trains. The symposium presentation will include the unique gemba story in a country where the central government believes it represents the VOC, analytic methods such as thematic content analysis, MS Excel® sorting, affinity and Pareto analysis as well as the continuing challenge of overcoming the culturally ingrained belief that the government speaks for everyone.

Keywords: bullet train, gemba, high-speed rail (HSR), master HOQ, ministry of railways (MoR), neighborhood of quality (NOQ), Peoples' Republic of China (PRC), QFD Capture, T-solution (TS), Tangshan Railway Vehicle Company, thematic content analysis (TCA), statement of work (SOW) , MS Excel® sorting

2012 Skills Building Exercise:

Hoshin Kanri (Strategic Policy Management) mini workshop

Instructor: Glenn Mazur, QFD Red Belt®, QFD Institute (USA)

Hoshin Kanri is a systematic quality approach to planning, executing, auditing, and managing corporate vision and business strategy. It is a company-wide strategic management system that uses common QFD tools to visually indicate the relationships between executive-level targets and the means to achieve them, and those of direct reports. In this mini workshop using Blitz Hoshin approach, attendees are introduced to the basic concept and application of how Hoshin Kanri works through an easy-to-follow example and hands-on exercise. The 2012 Transactions volume contains the slides from this session.