



Quality Management In The Digital Era

Roger Looney

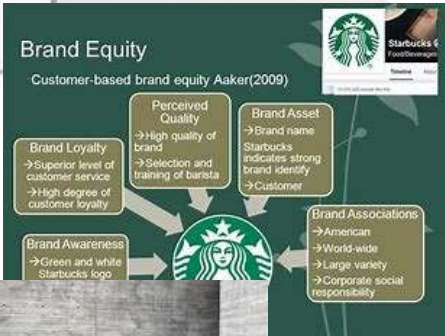
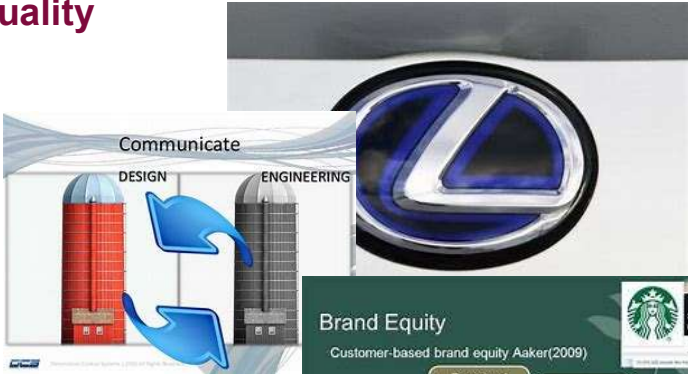
Quality Management In The Digital Era



2 Distinct Areas To Be Appraised



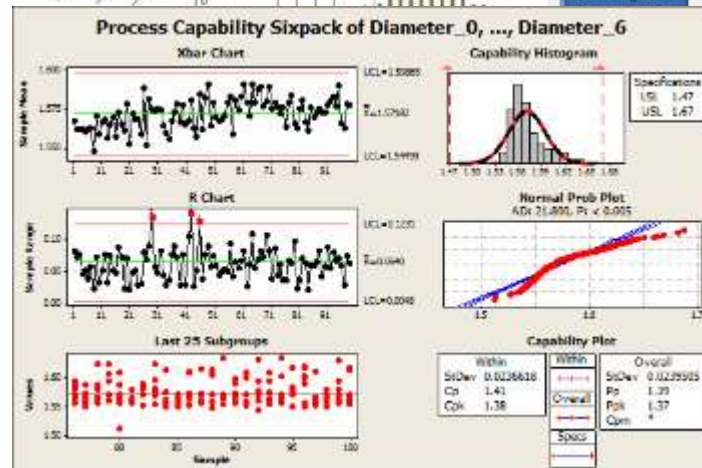
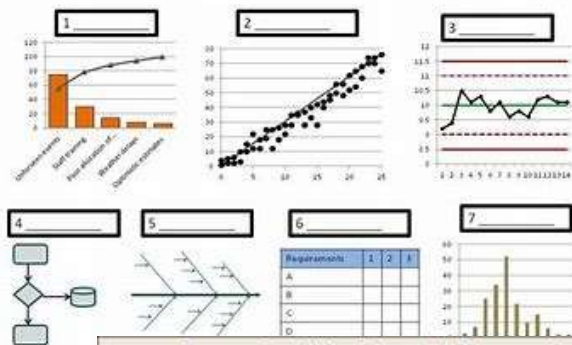
Production Quality and Perceived Quality



Traditional Production Quality Tools



Seven Basic Quality Control Tools



7 Quality Management & Control Tools

PMBOK 5th Edition

<p>Affinity Diagram</p> <p>A diagram to generate ideas that can be linked to form organized patterns of thought about a problem.</p> <p>Situation / problem: Want to organize</p>	<p>Process Decision Program Charts (PDPC)</p> <p>A structure that describes the steps involved in a certain task / activity / process for analysis.</p> <p>Situation / problem: Want to identify risk? Want to develop preventive measures for risk? or develop contingency</p> <p>Application / usage: Break down the task using tree diagram and for each bottom level, identify risk and plan preventive measures.</p>	<p>Interrelationship Digraph</p> <p>It is a diagram used for creative problem solving in moderately complex scenarios.</p> <p>Situation / problem: Want to solve complex problem where multiple factors are influencing each other</p> <p>Application / usage: Used to solve complex problems related to quality, business, system or process. It uses inputs from other quality tools e.g. affinity diagram, tree diagram or fishbone diagram.</p>	<p>Tree Diagrams</p> <p>It is used to understand parent-child relationship in any system or processes.</p> <p>Situation / problem: Want to decompose hierarchies like WBS, OBS, RBS, etc...</p> <p>Application / usage: It is used to develop Work Breakdown Structure (WBS), Risk Breakdown Structure (RBS). Expected monetary value (EMV) & even Process decision program chart (PDPC).</p>	<p>Prioritization Matrices</p> <p>It is used to identify most useful option from a list of options.</p> <p>Situation / problem: Want to decide about best option? Want to rank options.</p> <p>Application / usage: Rank the suppliers or prioritize projects by using weighted criteria.</p>	<p>Activity Network Diagram</p> <p>It is used to describe relationships between activities and their sequencing.</p> <p>Situation / problem: Want to build schedule network diagram? Want to review quality of schedule?</p> <p>Application / usage: Review network diagram for completeness, multiple critical network paths, near critical path, project & activity buffer for critical chain method.</p>	<p>Matrix Diagram</p> <p>It shows strength of relationships between factors, causes, and objectives that exist between the rows and columns that form the matrix.</p> <p>Situation / problem: Want to perform data analysis? Want to know relationship between multiple factors?</p> <p>Application / usage: Perform row and column analysis for different scenarios.</p>
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Traditional Perceived Quality Tools



样本介绍

样本来源及收集时间

- 2016年1月1日-12月31日
- 通过站内短信方式邀请符合条件的真实车主

样本定义

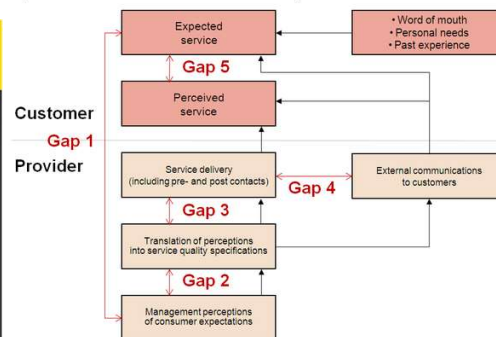
- 在过去 2-12个月内购车
- 私车用户
- 车辆的主要使用者

样本分布

- 合计有效样本 54,483 个
- 海外品牌(国产)样本 34,013 个
- 海外品牌(进口) 样本 1,566 个
- 中国品牌样本 18,904 个

数据来源：汽车之家质量产品

Gap Model of Service Quality

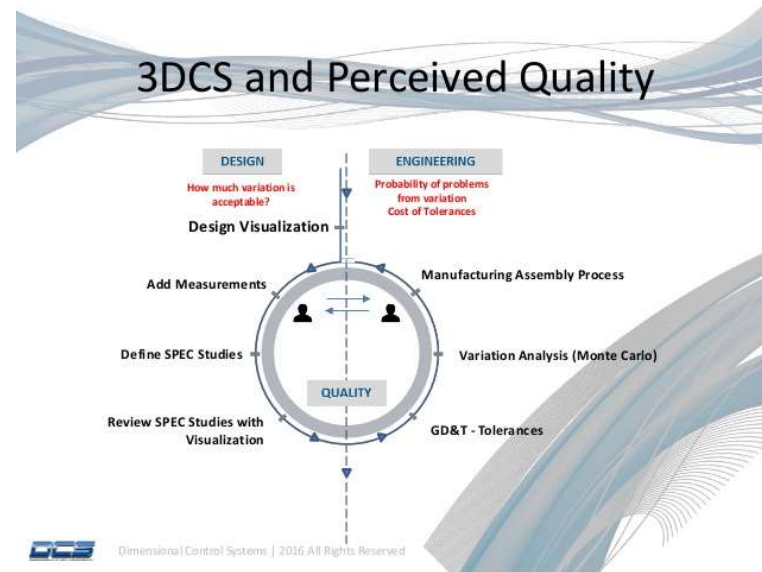


Tools for Product Attribute Value Analysis

- Level 1**
 - Market Perceived Quality Profile
- Level 2**
 - Kano Analysis
- Level 3**
 - Conjoint Analysis

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New Tools



The Future, Machine Learning and AI



Machine Learning –

Adapt to new circumstances that the original developer didn't envision

Detect patterns in all sorts of data sources

Create new behaviors based on the recognized patterns

Make decisions based on the success or failure of these behaviors”

AI

Natural language processing: The act of allowing language input and putting it into a form that a computer can use.

Natural language understanding: The act of deciphering the language in order to act upon the meaning it provides.

Knowledge representation: The ability to store information in a form that makes fast access possible.

Planning (in the form of goal seeking): The ability to use stored information to draw conclusions in near real time (almost at the moment it happens, but with a slight delay, sometimes so short that a human won't notice, but the computer can).

Robotics: The ability to act upon requests from a user in some physical form.

Discussion?



Thanks