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Collana	Quantitative approaches to decision making collection
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Nota di contenuto	Graphical and visual tools for improving product and service quality -- 1. Overview and data visualization -- 2. Data and data analysis concepts -- 3. Systems processes and variation -- 4. Current trends in data visualization -- 5. Data visualization concepts and applications -- 6. Seven basic quality tools: graphical tools to solve quality problems -- 7. The seven new tools for quality improvement -- 8. Other visual information tools in quality improvement -- Bibliography -- Index.
Sommario/riassunto	The focus of this book is on data visualization and information visualization tools--two major categories of data visualization. The first part discusses the concepts and applications related to data analysis, visualization, and the current trend in data visualization. A discussion of systems and processes is provided as all data are collected from systems and processes. A section emphasizes the importance of variation in data analysis since almost all data show variation and the visual tools are an excellent way to study, analyze, and reduce the variation in the processes. Applications illustrate how the visual tools are an excellent means of viewing the current state of the process and provide the opportunities for improvement. The second part of the book is devoted to quality tools, a set of graphical and information visualization tools in data analysis, decision making, and Lean Six Sigma quality programs. The key application areas of visual tools including the business process improvement, business data analysis, health care, finance, manufacturing engineering, process

improvement, and product and process design are discussed. The two categories of visualization tools--seven basic tools and seven new tools of quality-- are discussed with their applications. The basic quality tools are Process Maps, Check Sheets, Histograms, Scatter Diagrams, Run Charts, Control Charts, Cause-and-Effect (Ishikawa) Diagrams, and Pareto Charts/ Analysis. The seven new tools of quality--a set of visuals used to solve quality problems using graphical and analytical techniques--include the Affinity Diagram, Interrelationship Digraph, Tree Diagram, Prioritizing Matrices, Matrix Diagram, Process Decision Program Chart, and Activity Network Diagram. Other information processing tools, such as QFD-- the quality function deployment/house of quality--and multivari charts, are discussed using commonly used software.