1. Record Nr. UNINA9911007034803321 Autore Federation Water Environment **Titolo** Information Technology for Water and Wastewater Utilities: MOP 33 Chicago,: Water Environment Federation, 2022 Pubbl/distr/stampa **ISBN** 9781523147236 1523147237 9781572784277 157278427X Edizione [Second edition.] Descrizione fisica 1 online resource (243 p.) Manual of practice;; Number 33 Collana Disciplina 628.162 Water treatment plants - Information technology Soggetti Sewage disposal plants - Information technology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Intro -- Title Page -- Copyright -- Contents -- List of Figures -- List of Tables -- Preface -- Chapter 1. Introduction -- 1.0. Evolution of Information Technology -- 2.0. Intent and Target Audience -- 3.0. Utility Structure and Information Technology -- 4.0. Opportunities --5.0. References -- 6.0. Suggested Readings -- Chapter 2. Where Is the Value? Understanding the Business Context for Information Technology -- 1.0. Summary of Key Things to Know -- 2.0. Business Context --2.1. Customer Service -- 2.2. Accessing Information -- 2.3. Resilience 2.4. Governmental Incentives and Requirements -- 2.5. Sustainability and Social Justice -- 2.6. Aging Workforce and Changing Demographics -- 2.7. Transparency -- 3.0. Overview of Information Technology Systems for Utilities -- 4.0. Business Systems -- 4.1. Running the Utility Business -- 4.2. Managing and Paying Staff -- 4.3. Finance and Accounting -- 4.4. Customer Service -- 4.5. Managing Knowledge and Collaboration -- 5.0. Utility Management Systems -- 5.1. Metering --5.2. Maintenance and Asset Management -- 5.2.1. Asset Management -- 5.2.2. Maintenance -- 5.2.3. Inventory Management

5.2.4. Job Cost Accounting -- 5.3. Compliance Monitoring and Reporting -- 5.4. Project and Program Management -- 5.5. Construction Management -- 6.0. Operations -- 6.1. Collecting

Operational Data -- 6.2. Water Quality Testing -- 6.3. Operational Control -- 7.0. Planning and Decision Support -- 7.1. Planning -- 7.2. Modeling -- 7.2.1. Water Distribution Models -- 7.2.2. Hydrology and Hydraulics Models -- 7.2.3. Process Models -- 7.3. Deciding -- 8.0. References -- 9.0. Suggested Readings -- Chapter 3. The Importance of Data -- 1.0. Summary of Key Things to Know -- 2.0. Why Data Matters

3.0. Data Quality -- 4.0. Data Sources -- 5.0. Data Collection -- 6.0. Integrating Data Sets -- 7.0. Data Governance -- 8.0. Potential for the Utility of the Future -- 8.1. The Internet of Things -- 8.2. Digital Twins -- 8.3. Artificial Intelligence -- 9.0. References -- 10.0. Suggested Readings -- Chapter 4. Planning and Implementing Information Technology Projects and Programs -- 1.0. Summary of Key Things to Know -- 2.0. Alignment With Utility Priorities -- 2.1. Relationship Between Information Technology and Utility Strategic Priorities 2.2. Do You Need an Information Technology Strategic Plan? -- 3.0. Steps to Understand Your Information Technology Needs -- 3.1. Identify and Convene Key Stakeholders -- 3.1.1. Executive Steering Team -- 3.1.2. Planning Team -- 3.2. Articulate Current Conditions --3.2.1. Business Process Modeling -- 3.2.2. Strengths, Weaknesses, Opportunities, and Threats Analysis -- 3.2.3. Perspective Gathering --3.3. Identify Desired State -- 3.4. Prioritize Needs and Opportunities --4.0. Document the Strategic Information Technology Plan -- 4.1. Business Context -- 4.1.1. Vision -- 4.1.2. Goals 4.1.3. Objectives

## Sommario/riassunto

Technology and utilities' application of technology have evolved significantly since the original publication of MOP 33, yet many of the core principles for the successful application of information technology (IT) remain. This new edition covers the same fundamental principles and most common systems addressed in the first edition, while updating areas where the application of technology has changed significantly and highlighting areas of growing focus or concern, including cybersecurity and data governance.