

Operations Research Analysts

SOC: 15-2031 • Career Profile Report

■ Key Facts

\$91,290 Median Salary	112,100 Employment	+21.0% Growth Rate
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■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 12.0% probability of being automated in the next 10-20 years.
This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■ Work-Life Balance

7.8/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	7.4/10	Investigative	9.2/10
Artistic	4.6/10	Social	5.4/10
Enterprising	5.6/10	Conventional	6.8/10

■ Top Skills Required

Analytical skills, Communication skills, Critical-thinking skills, Interpersonal skills, Math skills, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Operations Research Analysts use **mathematical modeling, statistical analysis, and problem-solving techniques to help organizations make better decisions**. They analyze data, develop models, and provide recommendations to improve efficiency, productivity, and outcomes. Their work is critical in business, government, logistics, healthcare, and technology.

This career is well suited for individuals who enjoy mathematics, analytical thinking, and applying data-driven solutions to complex problems.

What Do Operations Research Analysts Do?

These professionals gather and analyze data, develop models, and propose strategies to optimize operations.

Common responsibilities include:

- Collecting, organizing, and analyzing data from various sources
- Developing mathematical and simulation models to evaluate scenarios
- Identifying trends, patterns, and operational inefficiencies
- Recommending strategies for process improvement, resource allocation, or cost reduction
- Presenting findings and reports to management or stakeholders
- Collaborating with cross-functional teams to implement solutions
- Using software tools for data analysis, modeling, and visualization

Key Areas of Operations Research

Operations research analysts may focus on specific industries, processes, or analytical methods:

- Logistics and Supply Chain Analysis: Optimizing transportation, inventory, and distribution
- Financial and Risk Modeling: Analyzing investments, costs, and potential risks
- Production and Manufacturing Optimization: Improving efficiency and workflow
- Healthcare and Service Systems: Enhancing patient flow, scheduling, and resource allocation
- Simulation and Predictive Modeling: Forecasting outcomes and testing scenarios

Skills and Abilities Needed

These professionals combine quantitative, analytical, and communication skills.

Core Professional Skills

Personal Qualities That Matter

Education and Career Pathway

This role typically requires formal education and quantitative training:

- Bachelor's Degree (minimum): Mathematics, statistics, engineering, computer science, or related field
- Master's Degree (optional but advantageous): Operations research, analytics, or management science
- Internships or Work Experience: Practical experience in data analysis, modeling, or business processes
- Professional Development: Training in analytical software, simulation, or industry-specific methods
- Continuing Education: Keeping up with new analytical techniques, tools, and research

Where Do Operations Research Analysts Work?

They are employed in organizations that rely on data-driven decision-making:

- Consulting Firms and Business Services
- Government and Public Agencies
- Manufacturing and Production Companies
- Healthcare and Insurance Organizations

- Technology and Research Institutions

Work environments include offices, research facilities, and collaborative team settings.

Is This Career Difficult?

This career requires strong analytical skills, problem-solving ability, and proficiency with complex data. Analysts must develop accurate models and provide actionable recommendations to support organizational goals.

Who Should Consider This Career?

This career may be a strong fit if you:

- Enjoy mathematics, data analysis, and problem-solving
- Are detail-oriented and analytical
- Can communicate technical findings effectively
- Are interested in optimizing processes and decision-making
- Want a career that applies quantitative methods to real-world challenges

How to Prepare Early

- Take courses in mathematics, statistics, computer science, and operations research
- Participate in internships or research projects involving data analysis
- Develop skills in analytical software, modeling, and data visualization
- Explore undergraduate and graduate programs in operations research or analytics
- Gain experience in real-world problem-solving and process improvement

Operations research analysts use mathematics and data to improve decision-making, optimize processes, and solve complex problems across industries.