

Introduction to Problem Solving in Library

and Information Management

Introduction to Problem Solving in Library and Information Management
(A concise, easy-to-read guide for students and professionals)

1. What Is Problem Solving in Library & Information Management (LIM)?

Aspect	Description
Definition	A systematic approach to identifying, analysing, and addressing challenges that affect the acquisition, organization, access, and use of information resources.
Goal	Improve service quality, operational efficiency, and user satisfaction while aligning with the library’s mission and strategic plan.
Scope	Covers technical (cataloguing, databases), managerial (staffing, budgeting), and user-centric (information literacy, outreach) issues.

2. Core Problem-Solving Cycle (Adapted from the “IDEAL” Model)

1. **Identify** the problem
2. **Define** the objectives & constraints
3. **Explore** possible solutions (brainstorming, research)
4. **Act** – implement the chosen solution
5. **Look back** – evaluate outcomes & refine

Tip: Keep a problem-solving log (date, description, actions, results) to build institutional memory.

3. Common Problem Types in LIM

Category	Typical Issues	Example
Collection Development	Gaps in subject coverage, outdated materials, budget limits	Low circulation of emerging tech titles

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Category	Typical Issues	Example
Cataloguing & Metadata	Inconsistent records, lack of standards	MARC vs. BIBFRAME
Digital Services	poor discoverability	migration challenges
User Services	Platform incompatibility, low adoption of e?resources, security risks	Users unable to access e?books off?campus
Operations & Management	Poor information?literacy outcomes, long wait times, accessibility barriers	Limited support for visually impaired patrons
Data & Analytics	Staffing shortages, inefficient workflows, budget overruns	High overtime due to manual processing
	Inadequate usage statistics, unclear KPIs, data silos	No unified dashboard for circulation & digital usage

4. Analytical Tools & Techniques

Tool	When to Use	Key Benefits
SWOT Analysis	Early stage to understand internal strengths/weaknesses and external opportunities/threats	Quick strategic snapshot
Root?Cause Analysis (5 Whys, Fishbone Diagram)	Persistent or recurring problems	Reveals underlying causes, not just symptoms
Process Mapping (Flowcharts, BPMN)	Complex workflows (e.g., interlibrary loan)	Visualizes steps, identifies bottlenecks
Cost?Benefit Analysis	Budget?related decisions	Quantifies financial impact
Usability Testing	Digital interfaces, OPAC, discovery layers	Direct user feedback on design
Benchmarking	Comparing services with peer institutions	Sets realistic performance targets
Data Visualization (Dashboards, Heatmaps)	Monitoring usage trends	Makes large data sets understandable at a glance

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5. Decision Making Frameworks and Information Management

Framework	Steps	Suitable Scenarios
Rational Decision Model	Define problem ? Identify criteria ? Weight criteria ? Generate alternatives ? Evaluate ? Choose	When data are complete and criteria are clear (e.g., selecting a new integrated library system).
Pareto Principle (80/20 Rule)	Identify the 20% of causes that generate 80% of effects	Prioritising fixes for the most impactful service issues.
Risk Matrix	Assess probability vs. impact ? Plot on matrix ? Prioritise mitigation	