PROJECT MANAGEMENT-IV

TRAINING WORKSHOP REPORT

Organized by:

Executive Development Institute

of the

National School of Public Policy

Government of Pakistan-Lahore

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Table of Contents

Rector's Message	i
Dean's Message	ii
Acronyms	iii
Technology in Management: IoT, AI and New Tools Dr. Kashif Zafar, HoD, Computer Science, FAST	01
Project Management Concepts and Principles: How do Projects Work and Why do they Fail? Mr. Shahid Soomro, Chief Projects, FBR	07
Project Communications and Stakeholders Management Mr. Shahid Soomro, Chief Projects, FBR	11
Project Financial Management Dr. Tanvir Hussain Bhatti, Additional Director (Intelligence & Investigation) FBR	15
Social Sector: Kamyab Program for Grassroots Financial Inclusion (PPP Program): Planning, Assessing, Monitoring and Risk Management Dr. Kamran Shams, CEO, Akhuwat Islamic Microfinance	19
Project Monitoring and Evaluation Dr. Khalid Ahmad Khan, Academic, President PMI Lahore Chapter	23
Legalities in Project Management Mr. Waleed Khalid, Lawyer, Partner CLM	26
Case Study Mr. Shahid Soomro, Chief Projects, FBR	30
Pictures Gallery	34

Rector's Message

The National School of Public Policy is the premier national institution for long and short trainings of civil servants as well as executives, academia, and social sector professionals in Pakistan. The training methodology of the school, as followed by both the Executive Development Institute (EDI) and the National Management College (NMC), aims at fostering an environment of intellectual curiosity amongst participants for analysis and skill enhancement. In addition, through the EDI, NSPP also holds training courses, where experts of the chosen topic come and share their knowledge as well as discuss the issues and the way forward related to them. EDI also holds webinars on issues of topical importance. These functions of EDI help it in fulfilling the overarching aim of the NSPP, which is to improve the quality and effectiveness of public policy formulation and its implementation.

This workshop on Project Management marks a timely engagement with the evolving demands of public service delivery. As stewards of reform and development, we must sharpen our project planning, coordination, and evaluation capabilities to meet today's institutional challenges with agility and impact. Throughout both days, we will explore a dynamic mix of themes, ranging from communication and stakeholder strategies to governance, risk, and compliance frameworks. Special emphasis will be placed on the transformative role of emerging technologies, including AI, Internet of Things (IoTs), and digital management tools, which are reshaping how we plan, implement, and assess our projects. This curated blend of ideas, experiences, and practical casework reflects our belief that project management is both a science and a leadership discipline, one that demands continuous learning and cross-sector collaboration.

As we move ahead, the National School of Public Policy remains committed to equipping public sector leaders with the foresight and functional expertise necessary for navigating complex governance landscapes. Future engagements will increasingly emphasize adaptive leadership, innovation in service delivery, and evidence-based decision-making. By fostering enduring linkages between practitioners, academicians, and policy thinkers, NSPP will continue to serve as a platform for cultivating a cadre of professionals capable of delivering inclusive, transparent, and results-driven governance in alignment with Pakistan's developmental goals.

Dr. Muhammad Jamil Afaqi
Rector, NSPP

Dean's Message

The Executive Development Institute (EDI) at the National School of Public Policy (NSPP) is a leading public sector institution committed to fostering dialogue, enhancing capacity, and promoting innovation in governance. Through its policy dialogues, trainings, and webinars, EDI consistently addresses themes of contemporary relevance. In this spirit, EDI organized a Two-Day Training Workshop on "Project Management" held on 2nd and 3rd July, 2025. This workshop was thoughtfully designed to equip participants with the skills and tools necessary to navigate today's rapidly evolving institutional and governance landscape. At EDI, we do not believe in static learning. We continuously refine our training approach to align with current realities, emerging challenges and the evolving expectations of public service professionals.

In keeping with EDI's tradition, the workshop brought together leading experts from industry, government and regulatory authorities, the social sector, and academia. These experts shared their insights and practical experiences with the participants, offering diverse perspectives and solutions to project management challenges. The sessions were carefully sequenced to ensure a logical progression of ideas, where each topic built upon the previous one, covering all critical dimensions of project planning, execution, monitoring and evaluation.

As per the rich tradition of EDI, we are honored to host a diverse group of speakers and facilitators who represent a broad spectrum of expertise from both the public and private sectors. Our speakers today bring not only professional depth and technical know-how, but also real-world experience that cuts across institutional boundaries. Their presence here reinforces EDI's role as a bridge between policy and practice, ensuring that what we learn is not only relevant but also actionable.

Project Management today stands as a cornerstone of public sector effectiveness. It is not merely about tracking timelines and deliverables but about strategic alignment, stakeholder engagement, adaptive planning, and result-oriented execution. With the integration of emerging technologies such as Artificial Intelligence, Internet of Things (IoT), and digital platforms, the discipline of project management has evolved into a dynamic and multidimensional field. Developing competencies in this area is essential for ensuring that public initiatives are implemented efficiently, transparently, and with measurable impact.

Through such training initiatives, we aim to foster a culture of accountability, innovation, and excellence across institutions, in line with the broader vision of NSPP and the national development agenda.

Dr. Naveed Elahi
Dean, EDI

Acronyms

NADRA	National Database and Registration Authority
DBMS	Database Management Systems
SQL	Structured Query Language
IoT	Internet of Things
GPT	Generative Pre-training Transformer
AI	Artificial Intelligence
EIS	Executive Information System
FIR	First Information Report
MIT	Massachusetts Institute of Technology
PPP	Public-Private Partnerships
M&E	Monitoring and Evaluation
MFIs	Microfinance Institutions
BOT	Build-Operate-Transfer
PMU	Project Management Unit
CSA	Civil Services Academy
NIMS	National Institute of Management
PWD	Public Works Department
PMBOK	Project Management Body of Knowledge
TARP	Tax Administration Reform Program
KPP	Kamyab Pakistan Program

Technology in Management: AI, IoT, and New Tools

Dr. Kashif Zafar

Dr. Kashif Zafar has been associated with FAST National University of Computer and Emerging Sciences since 2004. He is the Head of Department of Computer Science at FAST University, Lahore. Before joining FAST, he was working with the GIKI Institute, KPK. He has more than 25 years of teaching, research, and management experience in reputable local and international organizations. He has published more than 70 papers in national and international journals and conferences. He has a PhD in computational intelligence from FAST, Islamabad and an MS in Computer Science from the City University of New York. His area of specialization is artificial intelligence, data science, machine learning and deep learning. He developed and implemented numerous applications for healthcare, agriculture, and education.

Dr. Kashif Zafar began his talk by distinguishing between data and information. He started by defining the data as the raw facts collected from various domains such as agriculture, healthcare, or national ID systems like NADRA. However, for effective decision-making, he emphasized the transformation of data using functions and rules into information, which must be accurate, relevant, and timely to be valuable.

The speaker, while talking about the structured and consistent information, mentioned that this type of information forms the basis for knowledge, which comprises universally true rules that can guide decision-making. When such knowledge is embedded into systems that mimic expert-level reasoning, they become expert systems, such as autopilot technology, traffic control, or oil exploration analysis. These systems rely on knowledge bases, vast stores of coded specialist knowledge.

Transforming raw data into actionable knowledge through advanced tools is vital for effective modern management.

He then explained the structure and use of databases and Database Management Systems (DBMS), which electronically organize data in

tables. DBMS tools like SQL Server, Oracle, or MS Access support online (real-time updates) and offline (historical and static) databases. The offline data is typically used for strategic purposes and stored in data warehouses. A data warehouse stores large volumes of static, historical data, such as customer trends from Mobilink over the last decade. Organizations often further divide this into data marts, the mini-warehouses for departmental use (sales, finance, etc.). This helps identify patterns from past experiences to improve future decision-making.

The speaker introduced data mining as a technique to uncover hidden patterns in large datasets through classification, clustering, and association rule mining, which help businesses identify relationships such as a customer buying a laptop and purchasing a bag or software, thereby enhancing marketing and cross-selling.

Big Data's effectiveness depends on managing its volume, velocity, variety, veracity and value.

He extended this to web mining, which involves analyzing vast online content, especially with the advent of the Internet of Things (IoT) and platforms like Facebook and Twitter to perform opinion mining and sentiment analysis. As traditional systems fail to manage the scale of this digital information, Data Science has emerged, applying scientific methods to extract insights for strategic, data-driven decision-making. This shift is essential in handling Big Data, which refers to massive, complex datasets, which exceed the capabilities of conventional systems.

He elaborated on the five Vs of Big Data, essential for understanding and managing complex datasets. First is the Volume, which refers to the sheer size of data, ranging from gigabytes to zettabytes and its impact on processing capacity and cost. The second is Velocity, which highlights the speed at which data is generated and transferred, as seen in platforms like YouTube or Twitter. Third, Variety denotes the different formats data takes: numerical, visual, spatial, or textual, demanding flexible tools for handling it. The fourth is Veracity, which stresses the need for accuracy, consistency and integrity in data to ensure reliable decision-making. Lastly, Value measures how effectively data contributes to solving problems, emphasizing that meaningful insight, not just quantity, defines data's true worth.

In exploring what to do with data, the concept of intelligence emerges as the ability to process, understand, and draw meaningful insights from vast, complex information. Artificial Intelligence (AI) builds upon this by mimicking human intelligence using machines that can learn, reason, and make decisions. It enables machines to perceive, understand, act and adapt using data, sensors and algorithms.

Applications such as ChatGPT demonstrate how AI understands and generates human-like responses, revolutionizing interaction and analysis.

While discussing all this progress, he emphasized IBM's Power AI. This high-performance computing platform accelerates deep learning and AI model training, enabling faster insights and scalable solutions for enterprise-level challenges. Integrating intelligent systems with powerful infrastructure transforms how data is interpreted and utilized across industries.

Internet of Things (IoT), the Next Big Thing

The speaker highlighted this transformative concept of IoT, where everyday objects, ranging from household items to industrial machines, are embedded with sensors and connected to the internet, enabling them to collect, transmit, and sometimes act on data without human intervention.

The Internet of Things will be as transformative to the world as was the Industrial Revolution.

He discussed how IoT shifts us from people-generated data to device-generated data, such as traffic cameras, smart farms, or wearable health monitors, producing massive volumes of real-time streaming data, driving Industry 4.0, and linking the physical and digital worlds.

In his talk, the speaker also mentioned the leading companies driving this revolution and highlighted some popular IoT applications, including smart homes, wearable health tech, precision agriculture, autonomous vehicles and industrial automation, transforming everyday life and business operations.

Project Management, Technology Integration, and the Power of AI & IoT

The speaker deeply discussed the concept of project management, defining it as the process of leading teams to achieve goals within scope, time, and budget constraints by applying knowledge, tools, and techniques across key phases: planning, execution, monitoring/control and closure.

AI and IoT enhance project management by enabling smart planning, real-time monitoring, and data-driven decisions for improved efficiency and reduced risks.

While talking about the improvement in monitoring, forecasting, and resource optimization, the speaker discussed the increasing reliance of modern management on Artificial Intelligence (AI) and the Internet of Things (IoT) to enhance decision-making, automate routine tasks and boost operational efficiency.

The speaker emphasized the integration of AI and IoT in project management, highlighting their capabilities for real-time monitoring and control, predictive analytics for risk and maintenance, improved resource allocation, and competitive advantage through smart, data-driven processes.

AI and IoT are transforming cities and energy systems into smarter, safer and more efficient environments.

He discussed IoT applications in smart cities, highlighting the integration of IoT and AI for intelligent traffic control, pollution monitoring, crime detection, and waste management. He also emphasized smart grids as energy systems that leverage real-time data for efficient power distribution and fault detection.

Case Study: Punjab Government-Punjab Information Technology Board (PITB)

The speaker discussed how the Punjab Government, through the Punjab Information Technology Board (PITB), is revolutionizing public service delivery by integrating technology and AI across multiple sectors. In agriculture, AI-based pest warning systems send alerts to farmers via SMS to prevent crop damage. In healthcare, digital disease surveillance systems like the "Dengue Monitoring System" track cases in real time, while medicine inventory and biometric attendance systems improve hospital operations.

PITB's tech-driven reforms are digitizing governance in Punjab for smarter, faster, and more transparent public service delivery.

In law enforcement, citizens can now lodge e-FIRs online, reducing the need to visit police stations. Automated number plate recognition (ANPR) is used for vehicle tracking and criminal identification. Real-time dashboards monitor teacher presence, school inspections, and student enrollment in education.

Major Challenges

While discussing the key challenges in the modern digital and technological landscape, with a strong focus on security and privacy, the speaker emphasized the importance of reliability, dependability and interoperability of systems in Pakistan, suggesting better software architecture and information-centric networking to ensure data is available where needed.

Pakistan must overcome critical challenges in cybersecurity, infrastructure and policy to ensure secure systems, academic integrity, and global tech collaboration.

Usability, testing, and evaluation were also highlighted, along with socioeconomic and policy concerns, such as ensuring equitable access, digital literacy and sustainable tech use.

In conclusion, the speaker highlighted the importance of digitalization and automation for effective management. He mentioned that integrating AI and IoT into Management Information Systems (MIS) enables real-time monitoring, control and decision-making. He explained the hierarchy from Office Information Systems to Executive Information Systems (EIS), where data becomes increasingly summarized for top-level decision-makers. He emphasized efficiency, traceability, and transparency in global collaborations, while cautioning against job displacement due to automation, stressing the need for continuous reskilling to stay relevant.

He concluded by emphasizing that with learning more accessible than ever through platforms like YouTube, MIT, and Stanford, individuals and organizations must adapt, upskill and evolve with technological advancements.

Issues	Recommendations
AI creating Joblessness	Promote reskilling, upgrading your knowledge, and shifting focus to human-AI collaboration for emerging roles.
Trust Deficit in information sharing	Establish a secure digital infrastructure from the ground up, ensure integration across all departments, and assign access rights to designated officers. Additionally, provide education on data privacy and traceability.
Lack of Awareness About AI Tools	Launch awareness campaigns and provide hands-on training on digital tools.
Low Adaptability to New Technologies	Design user-friendly systems and implement structured change management programs.
Absence of a National Digital Architecture	Develop and enforce a unified national digital architecture and integration framework.
Digital Divide (Urban vs. Rural)	Expand rural connectivity and provide affordable digital access.
Policy-Implementation Gap	Monitor policy implementation through KPIs such as compliance rate, Audit Findings, Timeliness, etc., and ensure transparency and accountability.

Project Management in Pakistan: Challenges, Realities and Reforms

Mr. Shahid Soomro

Shahid Soomro is a senior civil servant currently serving as Chief (Projects) at the Federal Board of Revenue (FBR), Pakistan. He plays a key role in overseeing and improving public sector projects with expertise in Project Management, Monitoring & Evaluation (M&E) and Results-Based Accountability (RBA). He holds a Master's in Project Management with distinction from RMIT University and is a recipient of both the Chevening and Australia Awards scholarships. He has held key roles in BISP, the Pakistan Raises Revenue Project, and the Inland Revenue Service. He is well-known for his analytical approach and leadership and also a Public Speaker on Governance, Project Evaluation and Institutional Reform.

In his session, Dr. Shahid Soomro highlighted the reasons behind the failure of projects in Pakistan. He stressed the urgent need to implement structured project practices across the country. Speaking with expert precision and a reformer's passion, Dr. Soomro exposed how corruption, inefficiency and mismanagement drain billions from public projects. He used global and local evidence to trace the evolution of project management and stressed that adopting proper systems, enforcing accountability, and driving reforms can transform Pakistan's development landscape.

Ignoring PC-4 and PC-5 weakens institutional learning, without impact evaluation, we keep repeating mistakes at the cost of public money.

The speaker explained the structural weaknesses in Pakistan's project delivery and emphasized the need to adopt suitable project management methodologies. He introduced the "Golden Triangle" of project success: time, scope & budget and stressed the importance of balancing these elements. Dr. Soomro compared the Waterfall and Agile methods, noting that while Waterfall is effective for fixed, linear projects like construction, it lacks flexibility when changes arise. He argued that Agile is better suited to Pakistan's dynamic environment due to its iterative nature, stakeholder involvement and daily reporting practices. Drawing from personal experience, he shared how Agile improved team performance by over 80% through regular stand-up meetings and accountability mechanisms.

In Pakistan's fast-changing project environments, Agile works better, not just for flexibility, but because daily accountability drives performance.

During the session, the speaker engaged in a critical exchange with participants regarding the Planning Commission's project cycle in Pakistan, particularly focusing on the underutilization of PC-4 (Completion Report) and PC-5 (Impact Assessment). An expert highlighted that while executing agencies submit these documents, the Planning Commission seldom conducts in-depth technical analysis or follows up on the findings. Dr. Soomro pointed out that this disconnects leads to poor learning from completed projects, repeated design flaws, and frequent project revisions, ultimately resulting in cost overruns and delays. He emphasized that proper use of PC-5, with genuine impact evaluation and feedback integration, could significantly improve project outcomes and policy design.

Without ownership and timely funding, projects fail despite good design.

He also discussed Public-Private Partnerships (PPPs), outlining various types of agreements used under this model and explaining the operational role of the Public-Private Partnership Authority (P3A) in facilitating such projects. He critically examined the current practice where government departments rely on external financial advisors for PPP projects. Instead, he recommended that departments establish their own Project Management Units (PMUs) to build in-house capacity and reduce unnecessary costs. He identified this over-reliance on external consultants as a structural flaw in the Planning Commission's approach, emphasizing the need for institutional strengthening within the public sector.

Major Challenges in Project Management in Pakistan

Developing internal PMUs for PPPs can cut costs and strengthen institutional ownership—outsourcing everything weakens long-term capacity.

Dr. Shahid Soomro explained that the failure of public sector projects in Pakistan stems from recurring and deeply rooted issues. He pointed out that most projects begin without proper planning or detailed design, which leads to confusion and inefficiency down the line. Monitoring and evaluation, he noted, are often just formalities; many officers don't even understand the difference between site inspection and actual M&E. He criticized the lack of accountability and ownership among civil servants, who are tasked with projects but rarely take full responsibility.

Untrained project managers, ineffective internal controls, a shortage of skilled human resources, and complex procurement rules worsen things. Political interference and delayed release of funds lead to further disruption. He shared that in many cases, funds are released gradually rather than in the first quarter, which causes serious delays and cost overruns, costing Pakistan nearly Rs. 800 billion every year. He cited the BRT project as one of the many examples where weak oversight and poor execution led to massive financial losses. He also criticized the Planning Commission's outdated approach to evaluation, calling it "horrible," and said it reflects a wider institutional failure.

Institutional reforms are vital to stop Rs.800 billion in yearly losses.

To address these problems, Dr. Soomro suggested concrete and actionable reforms. He emphasized establishing proper monitoring offices with qualified project officers and shifting to e-procurement to reduce delays and corruption. He recommended integrating project management training in the civil service curriculum at institutions like CSA and NIMS offering training to contractors and suppliers. A risk assessment unit with a risk register should be set up to preempt project-level disruptions. Procurement rules must be simplified, and project funds should be fully released in the first quarter to avoid cost escalation. He also stressed the importance of early contractor involvement, hiring trained project managers within departments like Pak PWD, and improving the use of the Planning Commission's tools like IPAS. Post-completion physical audits, continuity in project leadership, and strong coordination among departments were highlighted as essential for successful delivery. He concluded that Pakistan's project management will remain inefficient and costly without these basic reforms.

Until Pakistan fixes its broken project management culture—marked by poor planning, weak ownership and flawed M&E—billions will continue to be wasted every year.

To sum up, He highlighted that poor planning, lack of ownership, and delayed funding cause major project failures in Pakistan. He criticized weak monitoring systems and the misuse of tools like PC-4 and PC-5. Citing Rs.800 billion in annual cost overruns, he called for reforms like trained managers, e-procurement, and timely fund release.

Issues	Recommendations
Poor planning and flawed project design	Conduct accurate planning with early stakeholder input and better use of Planning Commission tools.
Incompetent and untrained project managers	Introduce project management training through CSA/NIMS and hire professionals in key departments.
Delayed and gradual release of funds	Ensure timely disbursement, preferably full release in the first quarter, to avoid project delays
Weak monitoring and ineffective use of PC-4 and PC-5	Establish M&E offices with qualified staff and enforce mandatory use of PC-4 and PC-5 evaluations
Lack of ownership and continuity in leadership	Assign clear project responsibility and ensure leadership continuity throughout the project cycle.
Complex procurement rules and a lack of risk management	Simplify procurement processes, adopt e-procurement and establish risk registers within PMUs

Project Communication and Stakeholder Management

Mr. Shahid Soomro

Shahid Soomro is a senior civil servant currently serving as Chief (Projects) at the Federal Board of Revenue (FBR), Pakistan. He plays a key role in overseeing and improving public sector projects with expertise in Project Management, Monitoring & Evaluation (M&E) and Results-Based Accountability (RBA). He holds a Master's in Project Management with distinction from RMIT University and is a recipient of both the Chevening and Australia Awards scholarships. He has held key roles in BISP, the Pakistan Raises Revenue Project and the Inland Revenue Service. He is well-known for his analytical approach and leadership and also a Public Speaker on Governance, Project Evaluation and Institutional Reform.

In an insightful and thought-provoking lecture, Mr. Shahid Soomro addressed a critical issue that continues to plague project management: the high failure rate of projects despite having sufficient funding, technical expertise, and planning. He contended that failure's root cause is not generally financial or technical errors but poor communication and inadequate stakeholder engagement. Referencing the PMBOK framework, supported by case studies and practical tools, he argued that these two elements are central pillars of project success and must be treated with the same seriousness as budgeting and planning.

Project failure is often rooted in broken communication and neglected stakeholders—not flawed plans.

Communication Gaps That Derail Projects

The speaker began by demonstrating how failed communication often goes unnoticed until a project collapses. He provided sobering examples from aviation tragedies, including the Air India Express Flight IX 812 and Airblue Flight 202. In both cases, miscommunication in the cockpit, lack of assertive dialogue and failure to acknowledge warnings led to fatal outcomes, illustrating the deadly stakes of ineffective communication. Transitioning to the public sector, he examined the failures of large-scale initiatives like the Tax Administration Reform Program (TARP), Pakistan Steel Mills, and the Nandipur Power Project. These projects experienced setbacks due to departmental misalignment, vague responsibilities and absent feedback systems.

Miscommunication can have fatal or costly consequences, even in technically well-planned projects.

Foundations of Effective Project Communication

The speaker stressed that communication must be viewed as a deliberate, structured, and adaptable process. It encompasses all channels: spoken, written, visual, and symbolic, and shapes how stakeholders interpret progress and respond to issues. Drawing on PMBOK standards, he explained that communication should be tailored to suit stakeholders' managerial, cultural, and linguistic context. He also broke down communication types: interactive (like meetings), push (e.g., notifications), and pull (e.g., dashboards). Each method serves different stakeholder needs and should be chosen accordingly.

Structured Communication: Planning, Managing, Monitoring

The communication process was detailed in three stages. In the Planning phase, teams define their audiences, determine necessary information, and set delivery schedules using inputs like the project charter and stakeholder engagement plan. In the Managing phase, this plan is executed through meetings, tools, and performance tracking, emphasizing interpersonal skills such as conflict resolution and emotional intelligence. In the Monitoring phase, teams analyze feedback and performance metrics to refine their approach. This loop of continuous feedback and adaptation keeps communication relevant and effective.

Effective communication must be treated as a continuous process involving planning, execution and real-time adaptation.

The Strategic Importance of Stakeholder Management

Transitioning to stakeholder management, the speaker made it clear: stakeholders are not just passive participants; they are dynamic forces who can influence project outcomes. Failing to engage them turns potential allies into obstacles.

He began with Stakeholder Identification, stressing that it is not a one-off task but a dynamic, strategic process. Many projects overlook informal influencers or underestimate silent stakeholders. The Stakeholder Register helps prevent such gaps by mapping out influence, interest, and roles.

Once stakeholders are identified, the speaker explained, planning their engagement must reflect their unique needs and preferences. This is achieved using the Stakeholder Engagement Plan, informed by logs and registers like the Change Log, Issue Log, and Risk Register. He warned against applying a one-size-fits-all approach, which often leads to resistance. During project execution, stakeholder relationships must be actively managed. This

includes frequent communication, resolving conflicts, and using tools such as surveys and informal feedback mechanisms to maintain trust and alignment.

Monitoring Stakeholder Involvement

The speaker recommended using the Stakeholder Engagement Assessment Matrix to ensure stakeholders remain engaged. This tool helps compare desired and actual engagement levels. If discrepancies arise, immediate action can be taken to realign strategies. He emphasized that disengagement, especially when silent, is dangerous. It often signals eroded trust and can lead to long-term project disruption.

Tailored, continuous engagement is essential to maintain stakeholder trust and involvement.

The speaker underscored the role of three vital registers in enhancing both communication and stakeholder management:

- The Stakeholder Register identifies who matters and how they influence the project.
- The Risk Register anticipates disruptions linked to stakeholder behavior.
- The Lessons Learned Register preserves institutional memory from past successes and failures.

He argued that these tools enable teams to anticipate problems, apply historical insights, and adapt in real-time, making them essential for proactive management.

In closing, the speaker reiterated that projects succeed or fail based on how well people communicate and collaborate. Technical planning and financial resources cannot compensate for broken trust or ignored feedback. From the beginning, he urged organizations to embed communication and stakeholder management into their project culture.

His concluding argument was simple but powerful: communication and stakeholder management are not support functions; they are core elements of project execution. When people feel informed, valued, and heard, they invest in the project's success.

Registers provide operational memory and foresight that enable informed, proactive project delivery.

Issues	Recommendations
Communication gaps between teams	Establish structured, real-time communication channels
Ignored stakeholder voices	Conduct regular engagement and feedback sessions.
Static stakeholder analysis	Update stakeholder registers frequently
Generic communication strategies	Tailor methods to audience needs and contexts
Lack of institutional memory	Actively use and update project registers.

Project Financial Management

Dr. Tanvir Hussain Bhatti

Dr. Tanvir Hussain Bhatti is an Additional Director at the Federal Board of Revenue (FBR), currently serving in Inland Revenue, Lahore, where he coordinates enforcement operations under IREN. He holds advanced degrees including MBBS, BSc, LLB, and an MS in Economics, reflecting his multidisciplinary expertise in management, law, and finance. He has also served in key roles such as Assistant Director in the Intelligence Bureau and Assistant Controller in Military Accounts, Lahore. As a seasoned resource person, he has contributed to various institutions, including the IRS Academy, the Audit and Accounts Academy, the National Intelligence Academy, UET Lahore, GCU Lahore, Virtual University, and several formations of the Pakistan Army.

Dr. Tanvir Hussain Bhatti began his session by posing a critical question: *Why do projects fail?* — to emphasize the importance of understanding the foundational purpose of any project. He defined a project as a temporary endeavor to deliver a specific product, service, or result within a time frame.

Highlighting the core of project management, he discussed its role in transforming ideas into tangible outcomes through effective planning, organizing, and execution.

Dr. Bhatti outlined key components of project management, such as defining scope, identifying deliverables, managing risks, and ensuring communication among team members. He explained the project life cycle as comprising initiation, planning, execution, monitoring and control, and closure.

Effective project financial management ensures the alignment of resources, costs and outcomes to keep the project financially viable and on track.

Shifting focus to Project Financial Management (PFM), he stressed it as a structured process involving estimating, budgeting, and monitoring finances to maintain project viability. He elaborated on managing cost, cash flow, revenue, and profit, resting with the Project Management Office (PMO) or financial stakeholders. Specific financial metrics discussed included project revenue, cost, and profit.

The speaker outlined the financial management mechanism across the project life cycle, highlighting financial planning in initiation, budget and cash flow management during execution, financial reporting and risk control in monitoring, and evaluation at

Poor financial forecasting can lead to cost overruns in a project.

closure. He emphasized the project manager's financial duties, including budgeting, cost control, resource allocation, planning, reporting, and stakeholder communication.

He also shed light on common financial challenges project managers face, such as tracking too many metrics, inconsistent data, poor risk management, forecasting errors, and lack of focus on profitability. Additionally, he cited project failure statistics, attributing them to incomplete requirements, scope creep, limited resources, unrealistic expectations, and unclear objectives.

He emphasized the importance of project financial management, referencing PMI's finding that 27% of projects typically exceed budgets.

The speaker explained that project finance involves funding infrastructure projects through non-recourse or limited recourse structures, where repayment relies solely on project-generated revenues. He distinguished between greenfield (new development) and brownfield (existing asset) projects, noting their differing financing needs.

Effective financial management enables accurate cost estimation, realistic budgeting, risk identification, expense tracking and resource optimization.

He further outlined distinctive features of project finance such as separate project entities (borrowers), clearly defined risk allocations, reliance on cash flows for repayment, and collateral-backed borrowing.

Project Finance Modelling

Focusing on project finance modelling, Dr. Bhatti emphasized its dependence on expected future cash flows and its purpose in identifying optimal capital structure, assessing financial viability, and estimating returns under various risk scenarios. He highlighted key financial indicators like Net Present Value, Internal Rate of Return and Payback Period.

He compared public and corporate finance structures, then outlined various project funding alternatives such as equity, debt instruments and leasing. He described diverse investor profiles, including banks, funds, suppliers, and governments, each assessing criteria like sponsor strength, project fundamentals, risks and legal frameworks.

He discussed key financial ratios as essential tools for evaluating project performance. He outlined various project risks, including technical, financial, regulatory, and operational uncertainties, and emphasized aligning financial management with project objectives, structures, stakeholder engagement, and organizational dynamics. He concluded by referencing the six broad phases of project management, underscoring a structured, risk-aware, and performance-driven approach.

Project Planning

The speaker emphasized the principles of effective project planning, including clear scope definition, cost estimation, budgeting, feasibility analysis and financial forecasting through projected statements.

He outlined steps for creating a comprehensive financial management plan, highlighting risk accounting, funding sources, and cost monitoring. He also discussed project processes, organizational models like the McKinsey 7S and 4D inquiry and the nine key knowledge areas essential for successful project management.

PRINCE2: A Structured Approach to Project Management

The speaker introduced PRINCE2 as a structured, flexible project management methodology focused on business justification and stage-wise control.

He discussed key tools and techniques like Gantt charts and evaluation metrics such as Debt Service Coverage Ratio and break-even analysis. Emphasis was placed on scope change control, configuration management, and performance measurement to avoid project overruns and inefficiencies. He distinguished between project and financial audits, highlighting the value of post-completion reviews.

Project financial management through strategic planning, risk control, and precise monitoring turns projects from risky ventures into guaranteed successes.

In conclusion, he shared strategies for effective project finance management, including accurate cost estimation, budgeting, risk management and adopting integrated financial tools.

Issues	Recommendations
Cost Overruns	Improve budgeting accuracy with tools like NPV, IRR, contingency reserves; conduct feasibility studies and risk assessments.
Frequent Scope Changes	Implement strict Scope Change Management Plans and configuration management systems.
Extended Project Timelines	Use project planning tools like Gantt charts, CPM/PERT and define clear milestones and timelines.
Inefficient Resource Allocation	Apply resource optimization strategies, use integrated project management software and monitor performance regularly.
Debt Servicing Burden	Prioritize financially viable projects, reduce unnecessary borrowing and strengthen public-private partnerships.

Social Sector: Kamyab Program for Grassroots Financial Inclusion (PPP Program): Planning, Assessing, Monitoring and Risk Management

Dr. Kamran Shams

Dr. Kamran Shams is the CEO of Akhuwat Islamic Microfinance, Pakistan's largest interest-free microfinance institution, where he has spearheaded the disbursement of over PKR 220 billion in collateral-free loans to millions of low-income families, promoting financial inclusion and social uplift. With an MBA in Human Resource Management from the University of the Punjab, he previously held senior positions in the corporate sector, including Head of HR at Habib Bank Limited and later served as the founding CEO of the Punjab Education Endowment Fund (PEEF), a major scholarship initiative for underprivileged students. Known for his visionary leadership, Dr. Shams integrates the Islamic concept of *Mawakhat* (brotherhood) into Akhuwat's model, expanding its services to include free education, healthcare, clothing banks and programs for marginalized communities. His work has made Akhuwat, a global case study in poverty alleviation and social entrepreneurship.

The Kamyab Pakistan Program (KPP), launched by the Finance Division of the Government of Pakistan in 2021-22, aims to provide financial inclusion and poverty alleviation through interest-free microfinance for enterprise, agriculture, and housing sectors. The presentation by Dr. Kamran Shams (CEO of Akhuwat Islamic Microfinance) outlined the design, challenges and implementation strategies for KPP. Dr. Shams highlighted the key elements, objectives, challenges, and the way forward for KPP, with a focus on improving project planning, budgeting and risk control for better outcomes.

Overview of Kamyab Pakistan Program (KPP)

Dr. Shams started the presentation by giving a broad overview of the Kamyab Pakistan Program (KPP) is a flagship development initiative by the Government of Pakistan aimed at supporting the less privileged sections of society through providing interest-free loans in collaboration with microfinance institutions (MFIs) to small business enterprises (Kamyab Karobar), agriculture (Kamyab Kissan), and low-cost housing (Housing Finance). The program follows a bottom-up approach to promote self-employment, income generation, and sustainable economic growth.

Challenges and Issues

The speaker highlighted several critical challenges the Kamyab Pakistan Program (KPP) faced during his lecture. He emphasized that funding constraints remain the major hurdles, as the government has limited fiscal space to scale up microloans and sustain large-scale financial inclusion initiatives. According to him, this shortfall in funding often hampers the program's ability to reach its full potential and support all intended beneficiaries.

Only 21% of the adult population has a formal bank account.

He also pointed out the operational inefficiencies within the current system, noting that the high operational costs, low recovery rates, and difficulties in extending outreach to remote geographical areas are significant barriers to the program's success. He repeatedly stressed that these inefficiencies reduce the overall effectiveness of microfinance operations and require immediate attention through better technology and streamlined processes.

Furthermore, he underscored the governance issues that plague such programs, including bureaucratic red tape, political interference, and the limited institutional capacity for proper monitoring and impact assessment. He stated that without addressing these governance bottlenecks, achieving the program's long-term objectives of poverty alleviation and financial inclusion will remain challenging.

MFIs have combined portfolio of 8.8 million active MF borrowers.

Program Design and Implementation

In his lecture, the speaker provided a detailed explanation of the program design and implementation strategy of the Kamyab Pakistan Program (KPP). He explained that the funding model is structured in a way that commercial banks act as wholesale lenders (KIBOR + 1%), while microfinance institutions (MFIs) serve as retail lenders. According to him, this dual-layered approach ensures efficient and timely fund disbursement to the ultimate beneficiaries, leveraging the operational strengths of MFIs in reaching underserved communities.

Government covers the interest rate and the operational costs.

Monitoring of the Program

The speaker emphasized the importance of monitoring and transparency of KPP to ensure the program's effectiveness and credibility. He explained that the State Bank of Pakistan continuously monitors Executing Agencies (EAs) and Retail Lenders (RLs) through detailed monthly and quarterly reporting, covering all aspects from disbursements and recoveries to loan defaults and subsidy claims. Dr. Shams highlighted that performance audits are mandated for subsidy and loan loss claims, with a random 50% sample reviewed by SBP-approved external audit firms.

Additionally, the financial health of institutions is regularly assessed using indicators like operational self-sufficiency, debt ratios, and portfolio analysis. He further underscored transparency through eligibility verification using Ehsaas and NADRA data, ensuring that only families with a PMT score of up to 49 receive loans, with preference given to existing Ehsaas beneficiaries. The process includes individual loan-level scrutiny and third-party evaluations, reinforcing the program's commitment to accountability and targeted financial inclusion.

PMT score criteria ensures that loans are issued to the targeted segment only.

Risk and Mitigation Measures

The speaker briefly outlined key risks and mitigation strategies essential to the program's sustainability. He identified potential risks such as governance challenges, credit losses, and implementation inefficiencies. To address these, Dr. Shams emphasized structured oversight, performance monitoring, third-party audits, and financial safeguards like credit guarantees and strict eligibility criteria. These measures ensure program continuity, financial discipline, and targeted outreach to deserving beneficiaries.

Banks' exposure to default risk is mitigated by government sharing the default risk.

Progress Review of KPP

In evidence of the success of KPP and the key role of MFIs in its success, Dr. Shams pointed out the astounding 99% recovery rate of the loans issued by all the commercial banks. He highlighted key achievements in loan disbursements and outreach, reflecting Akhuwat's pivotal role in implementing KPP objectives. The data underscored the

Social collateral is a key incentive to repay MFIs loans.

organization's continued commitment to expanding financial inclusion through interest-free microfinance, particularly for underserved communities across Pakistan.

Issues	Recommendations
Limited funding for microloans	Encourage public-private partnerships to increase capital flows.
Low recovery rates	Enhance borrower screening and strengthen follow-up mechanisms.
High operational costs	Adopt technology-based solutions to reduce administrative costs.
Geographic outreach challenges	Collaborate with local NGOs and digital platforms for wider reach.
Lack of financial literacy	Conduct awareness campaigns and borrower training programs.

Project Monitoring and Evaluation

Dr. Khalid Ahmad Khan

Dr. Khalid Ahmad Khan is a seasoned project management professional and academic, currently serving as President of the PMI Lahore Chapter and Professor of Project Management at Riphah International University. With a PhD in Strategy, Program & Project Management from SKEMA Business School and engineering degrees from King Fahd University and Northwestern University, he brings a unique blend of technical expertise and strategic insight. Dr. Khan has played a pivotal role in advancing project management practices in Pakistan through research, teaching, and leadership—most notably earning the PMI Chapter Leadership Impact Award in 2023. His work focuses on public-sector project success, strategic governance and the integration of emerging technologies like AI in project leadership.

Dr. Khalid Ahmad Khan opened his presentation by stressing the critical role of monitoring and controlling projects through robust performance assessment methods. He introduced three primary approaches: Fund-based analysis, Time-based analysis, and Earned Value Analysis (EVA). Fund-based analysis, he explained, can be misleading if used in isolation, as spending a certain percentage of the budget does not necessarily equate to the same percentage of project completion. Similarly, Time-based analysis may not accurately reflect progress if milestones are met without corresponding work deliverables. Dr. Khan emphasized that Earned Value Analysis, which integrates cost, schedule, and work performance metrics, provides a more comprehensive and reliable measure of project health.

Earned Value Analysis provides a more comprehensive and reliable measure of project health.

Earned Value Added (EVA) Fundamentals

The presentation delved into the core principles of Earned Value Analysis, a methodology that combines measurements of planned work, actual work completed, and associated costs. Key terms were defined, including Planned Value (PV), which represents the budgeted cost of work scheduled, and Earned Value (EV), which reflects the budgeted cost of work actually completed.

Earned Value has become the primary standard for performance assessment method in project management.

Actual Cost (AC) was the real expenditure incurred for the work performed. Dr. Khan highlighted the importance of variances, such as Schedule Variance (SV = EV - PV) and Cost Variance (CV = EV - AC), which indicate whether a project is ahead or behind schedule and under or over budget, respectively. Additionally, performance indices like SPI (EV/PV) and CPI (EV/AC) were discussed as tools to quantify efficiency, with values below one signaling inefficiencies in schedule or cost management.

Schedule Variance and Cost Variance indicate whether a project is ahead or behind schedule and under or over budget.

Case Study: Construction Project

To illustrate these concepts, Dr. Khan presented a case study of a 7,500 sq. ft. construction project with a budget of Rs. 37.2 lakhs and an 8-month timeline. By the third month, the project's Earned Value (EV) was Rs. 14.5 lakhs, against a Planned Value (PV) of Rs. 19.82 lakhs and an Actual Cost (AC) of Rs. 16.4 lakhs. The resulting Schedule Variance (SV) of -Rs. 5.32 lakhs indicated the project was behind schedule, while the Cost Variance (CV) of -Rs. 1.9 lakhs revealed a budget overrun. Using the CPI-adjusted formula, the Estimate at Completion (EAC) was projected to be Rs. 42.3 lakhs, representing a 13.7% increase over the original budget. This case study underscored the practical application of EVA in identifying and addressing project deviations early.

Strategies for Improvement

The adoption of digital tools for real-time tracking and automated reporting key to streamlining monitoring processes.

Dr. Khan proposed several strategies to enhance project performance, emphasizing the need for early intervention. He pointed out that forecasts made at the 15% completion mark are valuable for implementing corrective measures before issues escalate. Adopting digital tools for real-time tracking and automated reporting was recommended to streamline monitoring processes.

Poor planning is the leading cause of rising project costs.

Additionally, Dr. Khan advocated targeted training programs to improve team proficiency in Earned Value Analysis, referring to PMI's free courses on topics like AI and Agile methodologies, is a valuable resource.

Portfolio-Level EVA

For organizations managing multiple projects, Dr. Khan introduced the concept of portfolio-level Earned Value Analysis. He described the use of Crosshair Graphs to plot CPI against SPI, enabling managers to visually classify projects as "Good" (on track) or "Bad" (requiring intervention). Trend analysis was also highlighted as a method to identify systemic issues, such as recurring cost overruns, across a portfolio of projects.

In closing, Dr. Khan reiterated the power of Earned Value Analysis as a tool for proactive project control. By detecting deviations early, optimizing resource allocation, and aligning project outcomes with strategic goals, EVA enables managers to deliver projects more effectively. He concluded by encouraging the adoption of modern practices, such as disciplined Agile and AI integration, to enhance project management capabilities.

Issues	Recommendations
Misleading fund-based analysis	Adopt integrated Earned Value Analysis (EVA)
Inaccurate time-based metrics	Combine schedule tracking with physical progress measurement.
Schedule delays	Implement SPI monitoring and reallocate resources
Cost overruns	Use CPI for early detection and implement cost controls.
Operational inefficiencies	Deploy digital tracking and reporting systems
Limited team proficiency	Conduct EVA training and utilize PMI courses
Portfolio management challenges	Implement Crosshair Graphs (CPI vs SPI)
Systemic performance issues	Apply trend analysis to identify patterns.

Legalities in Project Management

Mr. Waleed Khalid

Mr. Waleed Khalid is a renowned lawyer and Barrister-at-Law (Lincoln's Inn), serving as Partner at CLM. He holds an LL.B. (Hons.) from King's College London and a Postgraduate Diploma in Professional Legal Skills from BPP Law School, London. Mr. Khalid's practice spans constitutional and commercial litigation, with particular specialization in the power sector, energy law and infrastructure-related disputes. He has represented a wide array of clients including Independent Power Producers (IPPs, regulators, multinational corporations and public entities like LESCO, government of Punjab, LDA in high-stakes local and international arbitrations, including proceedings seated in London and Singapore.

Mr. Waleed Khalid delivered an insightful session on the legal complexities of project management, focusing on contract structuring, stakeholder roles, and public sector obligations. He emphasized the importance of coherent legal frameworks and effective dispute resolution in ensuring project success.

Understanding Project Structures and Stakeholders

A project is not just about building a dam or road; it's any organized effort to achieve an objective.

The speaker began by expanding the conventional understanding of what constitutes a project. Often associated exclusively with infrastructure such as dams, roads, or power plant projects, in reality, plant projects encompass any organized activity undertaken to achieve a defined objective. He emphasized that similar projects may exist across different sectors, and conversely, diverse projects can exist within the same sector or industry. For example, highway construction and urban transit initiatives are both considered projects in the transport sector, albeit with different scopes and stakeholders. Referencing the Lahore–Sialkot Motorway, which was executed under a Build-Operate-Transfer (BOT) model, the presenter illustrated the importance of aligning a project's legal and contractual structure with its purpose and design. Understanding the strategic objective behind a government-initiated project is essential for legally sound and operationally feasible planning.

A fundamental legal dimension in any project is stakeholder identification. Projects often involve multiple actors, and stakeholder configurations vary depending on the commercial arrangements of the initiative. The expert stressed that stakeholder inclusion must be need-based, aligned with

the project's unique requirements. Legally, it is imperative to clearly define each stakeholder's role through contractually binding documentation to ensure responsibility, reduce ambiguity, and minimize future legal risks.

Contractual Frameworks and Legal Design

The speaker stressed that contracts in project management are legal instruments that define commercial realities and allocate risk, not moral commitments. Relating on a single contract is impractical in complex projects involving numerous phases and stakeholders. Instead, a set of contracts is required for different phases or functions, each demanding careful legal design and alignment. The speaker emphasized the importance of legal coherence across this contract set. While contracts allow flexibility for the parties to decide their terms, that same freedom requires good legal planning.

Contracts are not moral documents; they reflect commercial reality and allocate risk.

He cited the globally used FIDIC suite, commonly known as the Rainbow Suite, as an example of standardized contractual models tailored to different project arrangements. Red Book – Employer provides design; contractor executes.

- Yellow Book – Contractor handles both design and execution.
- Silver Book – Used for turnkey projects; full delivery by contractor.
- Green/Pink Books – Simplified for small-scale or less complex projects.

He explained that contractual misalignment is a common source of disputes in complex projects. Each party has distinct obligations and liabilities, which can create disconnects if not harmonized across documents. Effective legal design ensures that all contracts function as part of a wider, integrated framework, anticipating interdependencies and operational overlaps.

Public Sector Legal Considerations

When managing public sector projects, legal compliance becomes significantly more complex due to the involvement of public funds and state accountability.

Transparency and value for money are the two most important principles in public procurement.

The speaker discussed the two principal frameworks govern such projects: procurement laws and public-private partnership (PPP) laws, both existing at the

federal and provincial levels. Key statutes include the Public Procurement Regulatory Authority (PPRA) Ordinance, 2002, and the Public Private Partnership Authority Act, 2017.

These laws are underpinned by foundational legal principles that apply across all public sector engagements. The speaker emphasized transparency and value for money as central pillars, alongside other principles such as non-discrimination, efficiency, reasonableness, and fair play. These standards aim to ensure the fair and optimal use of public resources.

Contractual Challenges and Dispute Resolution Mechanisms

The speaker compared contract structuring in large-scale projects to crafting a well-connected story, where inconsistencies or missing links in the narrative can result in serious operational failures and legal conflicts. He emphasized that when multiple stakeholders and phases are involved, a single contract is rarely sufficient. Instead, well-aligned agreements are required, each addressing specific responsibilities. To avoid disconnects, careful legal drafting is essential in key areas including liability and risk allocation, limitation of liability and exclusions, payment mechanisms, and financial security.

Mr. Khalid concluded the session by stressing the importance of planning for difficult situations in advance. He explained that termination clauses, though often uncomfortable to discuss early, are essential. Addressing them from the start helps reduce the chances of serious disputes later on and makes the contract stronger and more reliable.

Contracts in a major project must work like chapters of a single story, if they do not connect, the project can collapse.

He also pointed out that in long and complex projects, disagreements are likely to happen. That's why contracts should include clear dispute resolution procedures, usually starting with friendly discussions and moving to mediation or arbitration. These methods are often better than going to court, as they are faster, more cost-effective, and more private. A well-planned dispute resolution process helps protect everyone's legal interests while keeping the project and working relationships on track.

Issues	Recommendations
Fragmented contracts leading to misalignment and legal gaps	Develop an integrated contract framework with consistent terms across all stakeholders and phases
Undefined or unclear stakeholder roles	Document the responsibilities and obligations of each stakeholder through binding agreements.
Lack of attention to termination clauses in early contract stages	Include well-defined termination clauses from the outset to minimize future legal risks
Limited understanding of public sector legal requirements (e.g., PPRA, PPP laws)	Ensure compliance with procurement and PPP laws by embedding transparency and value-for-money principles.
Inadequate dispute resolution planning	Adopt multi-tiered dispute resolution mechanisms, including amicable settlement, mediation, and arbitration.

Case Study:

Denver International Airport Baggage Handling System – An Illustration of Decision Making and Communication Failure

Mr. Shahid Soomro

Shahid Soomro is a senior civil servant currently serving as Chief (Projects) at the Federal Board of Revenue (FBR), Pakistan. He plays a key role in overseeing and improving public sector projects with expertise in Project Management, Monitoring & Evaluation (M&E) and Results-Based Accountability (RBA). He holds a Master's in Project Management with distinction from RMIT University and is a recipient of both the Chevening and Australia Awards scholarships. He has held key roles in BISP, the Pakistan Raises Revenue Project, and the Inland Revenue Service. He is well-known for his analytical approach and leadership and also a Public Speaker on Governance, Project Evaluation and Institutional Reform.

In the final session, Mr. Shahid Soomro presented a case study on the failure of the automated baggage handling system at Denver International Airport (DIA). The session explored how poor communication and lack of stakeholder engagement led to the collapse of an ambitious, large-scale infrastructure project. The case highlighted practical lessons in project management, particularly in stakeholder handling, risk recognition, and decision-making.

Conceived in 1989, the Denver International Airport project aimed to establish Denver as a major aviation hub in the United States. With a planned capacity to handle over 50 million passengers annually, the airport was envisioned to be supported by a fully automated, integrated baggage handling system. The project scope was unprecedented: 17 miles of track, over 3,000 carts, 14 million feet of wiring, and a computer-controlled network of over 100 systems. BAE Systems was awarded the contract to build the system.

However, what began as a showcase of innovation soon became an expensive and cautionary tale of project failure.

Core Issues in Stakeholder Management

One of the earliest and most critical oversights was the failure to properly engage all stakeholders. Initial collaboration was centered around United Airlines, with limited or no involvement from other major airlines like Continental. This exclusion led to misalignment, resistance, and ultimately the withdrawal of key users from the system. The airport's project team failed to map the full landscape of stakeholders and neglected the importance of collaborative input in the design and implementation phases.

Poor communication and lack of stakeholder engagement can derail even the most ambitious infrastructure projects.

Additionally, decision-making occurred in silos, with crucial project-level discussions happening between BAE and select individuals, such as the airport's Chief Engineer, without wider engagement from other departments or technical advisors. This lack of cross-functional input significantly impaired the project's ability to respond to real-world operational challenges.

Underestimation of Complexity and Risk

The baggage system envisioned for DIA was ten times more complex than any similar system at the time. Yet, this complexity was poorly understood and insufficiently accounted for in planning and risk assessments. Tasks like "line balancing," which involved keeping enough empty carts at over 100 pickup points throughout the airport, were technically intricate and operationally critical—but underestimated during the design phase.

The system was ten times more complex than any before it yet the risks were significantly underestimated.

The bid process was also delayed, with procurement activities only starting in mid-1991 for a project scheduled to open in late 1993. Experts warned that even simpler systems, such as Munich Airport's baggage system, had required at least two years of full-time operation and testing. Despite this, the project proceeded with a significantly tighter timeline and no structured contingency planning.

Procurement and Contractual Failures

BAE Systems agreed to deliver the system under a fixed-scope, fixed-budget, and fixed-timeline contract. This rigid arrangement transferred substantial risk onto the contractor risk, which BAE's internal teams had flagged as unmanageable. Unfortunately, these warnings were ignored by senior management, and the decision to proceed was made without re-scoping or adjusting the delivery expectations.

Moreover, change management processes were weak or absent. Several modifications were introduced during implementation, including additions like ski equipment racks, maintenance tracks, and oversized baggage handling. These late-stage changes required reengineering and redesign, yet were not managed through a structured change control process or updated risk register, compounding delays and escalating costs.

Communication Breakdowns and Leadership Gaps

The session underscored how internal communication failures within BAE and between stakeholders contributed to the project's collapse. Technical teams warned that the timeline was unrealistic, estimating a four-year build at minimum, yet these concerns never translated into project-level adjustments. Senior leaders made decisions in isolation, and there was no formal mechanism to escalate internal red flags to a decision-making forum.

When the project's shortcomings became publicly visible, particularly during a failed demonstration in 1994, the Mayor of Denver intervened. Despite pressure from United Airlines to continue, the mayor acted on expert advice. He formally scrapped the automated system in favor of a fully manual one in 2005, at an additional cost of $51 million.

Key Lessons and Conclusion

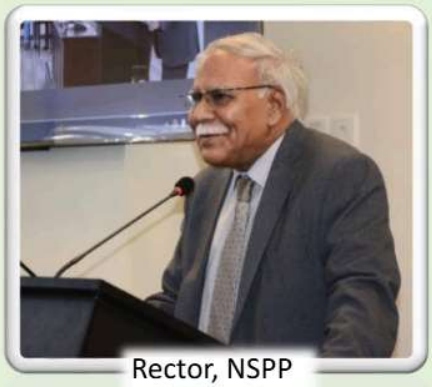
Mr. Shahid Soomro concluded that the Denver project failure offers enduring lessons for complex infrastructure and technology-based projects. The case illustrates how even well-funded, high-profile initiatives can fail if stakeholder engagement, risk assessment, change management and internal communication are not handled with discipline and foresight.

Inclusive stakeholder mapping, realistic planning and risk management must begin on day one.

The failure was not due to technological limitations but overconfidence, fragmented leadership, and lack of governance. It reinforces the need for structured project governance, realistic planning, inclusive stakeholder engagement, and transparent communication channels from the beginning.

Issues	Recommendations
Poor Stakeholder Engagement	Ensure early and inclusive stakeholder mapping and engagement throughout the project lifecycle.
Underestimation of Complexity and Risk	Conduct feasibility studies and maintain a detailed risk register from the start.
Weak Change and Contract Management	Establish structured change control processes linked with regular risk reassessment.
Communication Breakdowns and Leadership Gaps	Create transparent communication channels and escalation mechanisms for internal concerns.

PICTURES GALLERY



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