



**NED University of Engineering and Technology**  
**Department of Economics and Management Sciences**



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# **ABSTRACT BOOK**

# **FINAL YEAR DESIGN PROJECT**

# **BATCH 2021**

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**Bachelor Programs:**

**BS in Management Sciences**

**BS in Economics and Finance**



**JULY 9, 2025**



# **NED University of Engineering and Technology**

## **Department of Economics and Management Sciences**



### **Introduction to the Department of Economics and Management Sciences**

The Department of Economics and Management Sciences was established in 2017 and operates under the Faculty of Architecture and Sciences in NED University of Engineering and Technology. The department offers two undergraduate programs—BS Economics and Finance, and BS Management Sciences—as well as a postgraduate program, MS Economics and Finance. Currently, around 600 students are enrolled in the department.

The department has dedicated faculty members, with over 40% holding PhD degrees. Besides, the department also has strong network of industry professionals who contribute as visiting faculty in different courses.

Since its inception, the department has organized different international conferences and seminars covering a broad range of topics in economics, finance and business. Faculty members are actively engaged in national and international research projects, both independently and in collaboration with stakeholders, like the World Bank, the Petroleum Institute of Pakistan, and the Indus Consortium etc. Further it has close ties with the Meezan Bank, National Institute of Banking and Finance, Pakistan Insurance Institute. The department also has a privilege to host the Centre of Islamic Finance and FinTech (CIFFT) in collaboration with the Meezan Bank.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

### **Role of Psychographics in Consumer Buying Behavior in the Fashion Industry: Analysis of Gen Z and Gen Alpha of Pakistan**

Group Number MG - 01

Group Members: Manahil Afaq (MG-001), Amna Malik (MG-017)  
Minza Naeem (MG-023), Mashal Kayani (MG-024)

Supervisor Name: Dr. Hina Mubeen

#### **Abstract**

This study investigates the influence of psychographic factors—attitudes, lifestyles, and motivators—on consumer buying behavior within Pakistan's fashion industry, specifically focusing on Generation Z (1997–2012) and Generation Alpha (2013–2025). Despite increasing digitalization and evolving cultural dynamics, many Pakistani fashion brands still primarily rely on traditional demographic segmentation, often overlooking deeper psychological drivers.

The research addresses four key questions: what psychographic characteristics define Gen Z and Gen Alpha consumers in Pakistan, how these traits impact their buying preferences in the fashion market, to what extent cultural characteristics influence their psychographic profiles, and how fashion brands can leverage psychographic insights to enhance brand loyalty and customer relationships.

A quantitative approach was employed, collecting data through questionnaire surveys from 400 respondents (200 from each generation) using convenience and quota sampling. A five-point Likert scale was used to assess the psychographic variables, and SPSS facilitated the analysis, including descriptive statistics, correlation, and regression analysis.

Findings indicate that Gen Z values individuality, sustainability, and inclusivity, while Gen Alpha prioritizes comfort, simplicity, and tech-driven shopping. Social media significantly influences both groups' fashion choices and brand perceptions. Policy recommendations advocate for integrating psychographic profiling into market research, designing culturally relevant yet progressive fashion narratives, and utilizing AI-driven data analytics to personalize consumer experiences. These strategies can empower Pakistani fashion brands to remain competitive, future-ready, and aligned with the evolving preferences of younger generations.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Consumer Trends & Market Dynamics in the Bar Soap Category: A Study Between Beauty & Anti-Bacterial (Dettol)**

Group Number: MG - 02  
Group Members: Falza Rizwan (MG-044), Qamrosh Sohail (MG-025)  
Insharah Sohail (MG-050), Manaal Mehtab (MG-051)  
Supervisor Name: Dr. Hina Mubeen  
Co-Supervisor Name: Ms. Syeda Zuimah Wasim  
Name of Industrial Supervisor: Ukasha Kharbey

### **Abstract**

This analyzes post-pandemic consumer purchasing dynamics within Pakistan's bar soap segment. The research specifically investigates the declining purchasing intent of Dettol, a leading antibacterial brand, in contrast to the growing demand for beauty soaps like Lux and Palmolive.

Utilizing a qualitative research method, the study employed in-depth interviews with both retailers and consumers. Thematic analysis was conducted across seven overarching constructs: consumer motivation, product attributes, communication and advertising, price, product availability, and brand positioning.

Results indicate that while Dettol maintains strong brand trust for its hygiene value, consumers are increasingly drawn to beauty soaps due to their emotional value, pleasant fragrance, attractive packaging, and affordability. This shift in consumer preference has been accelerated by the declining demand for antibacterial protection in the post-COVID era and heightened price sensitivity. Consumers further cited inconsistent availability and a weak emotional connection as factors undermining Dettol's market share position.

The study advises Dettol to reposition itself with more emotionally resonant communication, introduce value-based pricing strategies, invest in product sensory values, and strengthen retail distribution. These actions are critical for Dettol to remain relevant and regain market share in a consumer landscape that increasingly values lifestyle and emotional connection alongside functional benefits.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Consumer Trends & Market Dynamics in the Bar Soap Category: A Study Between Beauty & Anti-Bacterial (Dettol)**

Group Number: MG - 03  
Group Members: Laiba Naseem (MG-041), Neha Mateen (MG-304)  
Salaha Amatur Rehman (MG-039)  
Supervisor Name: Mr. Talha Ahmed Siddiqui

### **Abstract**

This research explores the profound influence of packaging on consumer decision-making and its strategic role in marketing. Consumer decision-making is defined as the process individuals undertake when purchasing goods or services, encompassing evaluation, purchase, and post-purchase activities, with the ultimate goal of predicting consumer responses to marketing stimuli like packaging. Packaging serves as the initial visual interaction between consumers and a product, effectively communicating brand identity, product quality, and key benefits.

Despite growing awareness, there remains a notable gap in understanding how specific packaging elements precisely influence purchasing behavior across diverse consumer segments. The core challenge lies in identifying which packaging features most effectively drive consumer choices and how these align with evolving market trends<sup>5</sup>. This study aims to bridge this gap by exploring packaging's impact on consumer perceptions, preferences, and overall purchase intentions.

The research objectives include analyzing consumer preferences to identify influential packaging elements such as color, shape, and material examining psychological responses to understand how packaging styles affect consumer emotions and perceptions of quality evaluating packaging's contribution to brand recognition and loyalty and investigating the effect of eco-friendly packaging on purchasing decisions and brand image. Ultimately, this research underscores packaging as a critical marketing tool for enhancing uniqueness, fostering loyalty, optimizing consumer connections, and shaping consumer perceptions and trust.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Triggers of Purchase Decisions of SaaS Products in Pakistan's B2C Market: Analyzing Consumer Behavior**

Group Number: MG - 04  
Group Members: Zohra Tariq (MG-042), Arooba Ejaz (MG-049)  
Hadia Zehra (MG-062), Aiman Aijaz (MG-064)  
Supervisor Name: Dr. Hina Mubeen

### **Abstract**

This research explores the emotional, social, and psychological factors influencing Software-as-a-Service (SaaS) purchase decisions within Pakistan's business-to-consumer (B2C) market. Academic research on the drivers of consumer behavior concerning software products in emerging economies like Pakistan is currently limited.

This study employing a qualitative approach, conducted fourteen in-depth, semi-structured interviews with a diverse group of Pakistani students, recent graduates, and early-career professionals, all possessing relevant SaaS experience. Thematic analysis was utilized to identify recurring emotional patterns within the collected data.

The research thoroughly indicates that customer subscription choices are significantly shaped by factors such as trust, fear of missing out, convenience, social proof, and perceived control. Furthermore, pricing models that mitigate risk, including free trials, tiered subscriptions, and pay-as-you-go options, are particularly appealing to the audience as they enhance affordability and provide flexibility. The collectivist culture of Pakistan also significantly drives purchase decisions through peer influence and social word-of-mouth.

The study highlights the crucial role of accessible customer service and user-friendly design in alleviating user stress and increasing satisfaction, which can foster future engagement. This research contributes a valuable cultural perspective to the existing technology adoption literature. It encourages SaaS providers to adopt emotionally attuned strategies, such as offering free access, leveraging testimonials, simplifying initial access, and providing prompt assistance, all of which can build trust, increase adoption, and cultivate trust-based loyalty in the B2C space.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **From Resistance to Acceptance: Optimizing Marketing Strategies to Promote 'Made in Green' (MIG) Products and Overcome Premium Pricing Barriers**

Group Number MG - 05

Group Members: Maham Abbas (MG-021), Hassan Khan (MG-012)  
Muhammad Ali Qazi (MG-028), Ajia Imran (MG-003)

Supervisor Name: Dr. Hina Mubeen

Name of Industrial Supervisor: Mr. Ateeque-Ur-Rehman

### **Abstract**

This study investigates consumer behavior toward 'Made in Green' (MIG) certified textile products by Union Fabrics, specifically addressing the disparity between retailers' willingness to promote sustainable goods and consumers' reluctance to purchase them, primarily due to price sensitivity and limited awareness.

The research explores how key factors—green advertisement, price sensitivity, consumer attitude, environmental concern, and green brand awareness—influence consumer decisions and, consequently, the sales of MIG-certified products. A quantitative research design was employed, utilizing a structured Likert-scale questionnaire administered to a representative sample of consumers. Data analysis was conducted using SPSS, incorporating descriptive statistics, reliability testing (Cronbach's  $\alpha = 0.765$ ), Pearson correlation, and multiple regression analysis.

The findings reveal that only 43.8% of respondents have moderate familiarity with MIG, while over 70% identified cost as a major factor in their purchasing decisions. Environmental concern and green brand awareness emerged as significant positive predictors of MIG product sales, whereas price sensitivity demonstrated a notable negative impact. Although consumer attitudes and green advertising were positively perceived, they did not independently significantly affect sales.

The study concludes that raising awareness of MIG certification, strengthening transparent and informative green branding, and adopting cost-effective pricing strategies are essential for bridging the gap between consumer intent and behavior. Policy recommendations include strategic consumer education, implementing tiered pricing models, and leveraging digital platforms to increase visibility, ultimately fostering sustainable consumption within the textile industry.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

### **Consumer Perceptions and Brand Awareness of Fresh Street: The Impact of Conscious Consumerism on Premium Food Choices**

Group Number MG - 06

Group Members: Misbah (MG-006), Tayyab Ejaz (MG-014),  
Raiha Fatima (MG-022), Syeda Kulsoom Zaidi (MG-038)

Supervisor Name: Mirza Faizan Ahmed

Name of Industrial Supervisor: Syed Muhammd Salman

#### **Abstract**

This study analyzes how Fresh Street, a premium food brand specializing in sauces, can enhance its market positioning by leveraging conscious consumerism, ethical sourcing, and strategic branding within Pakistan's competitive food industry. As consumer values continuously shift toward sustainability, authenticity, ethical sourcing, and quality, new brands face both opportunities and challenges in differentiating themselves.

The research addresses key questions: how competitors maintain high brand perceptions, how Fresh Street can effectively advertise its product quality and ethical stance, how brand awareness and loyalty can be enhanced through specific strategies, and how the brand can leverage conscious consumerism.

The research employed a mixed-methods approach, gathering quantitative data through structured surveys of over 400 consumers and qualitative information via interviews with five industry experts and restaurant owners. Additional secondary data included competitor benchmarking and market trend publications.

Findings reveal that while Fresh Street currently has moderate awareness and adoption, it possesses strong potential for differentiation through ethical sourcing and transparent branding. Statistical analysis indicated that higher-income and more educated consumers are particularly sensitive to sustainability and brand ethics. Storytelling that appeals to emotions, enhanced digital visibility, and Business-to-Business (B2B) trial partnerships were identified as effective strategies to gain brand recognition and consumer trust. The study concludes that Fresh Street can achieve successful growth by aligning with consumer values, enhancing product accessibility, and focusing on ethical operations through initiatives such as influencer marketing, QR-coded transparency, and income-based messaging.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

### **Reviving up retail: optimizing existing marketing strategies to boost up in store traffic in Karachi- specifically targeting SEC A class customer**

Group Number: MG - 07  
Group Members: Umeama (MG-002), Rehma Khalid (MG-004)  
Hadeeqa Tariq (MG-005), Tameen Faisal (MG-020)  
Supervisor Name: Mr. Adnan Khalil  
Name of Industrial Supervisor: Mr. Osama Sarwer

#### **Abstract**

This research investigates the declining in-store footfall of SEC A-class customers at Bachaa Party, a leading children's retail brand in Pakistan. Despite a strong brand presence and a comprehensive product range, the brand struggles to attract and retain high-income consumers at its physical outlets in Karachi. The study aims to bridge this disconnect by analyzing current marketing strategies and identifying gaps that prevent engagement with this affluent segment.

A qualitative methodology was adopted, incorporating semi-structured interviews with SEC A-class customers, store employees, and head office marketing personnel. The findings reveal that while Bachaa Party offers variety and convenience, its current promotional strategies lack the exclusivity, personalization, and experiential value expected by SEC A clients. Key barriers identified include insufficient in-store ambiance, limited parking accessibility, underutilized loyalty programs, and inconsistent marketing execution.

The research highlights the critical role of in-store experience, as emphasized by store employees, while head office personnel view marketing strategy as the primary influence—an insight gap that suggests the need for better internal alignment.

Based on these findings, the study recommends strategic reforms, including consistent personalized experiences across all outlets, data-driven loyalty initiatives, omnichannel integration, and customer-centric promotional campaigns. These interventions aim to align the brand's retail experience with the expectations of high-value customers. By doing so, Bachaa Party can enhance customer engagement, improve brand loyalty, and regain its competitive edge in Pakistan's premium children's retail market.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **ADOPTION OF DIRECT-TO-CONSUMER (D2C) E-COMMERCE AT LUCKY TEXTILE MILLS LIMITED**

Group Number: MG - 08  
Group Members: Urooj Rafat (MG-031), Marina Khan (MG-033)  
Sohaib Siddique (MG-010), Hussain Mustafa (MG-011)  
Supervisor Name: Ms. Zuimah Wasim  
Name of Industrial Supervisor: Mr. Faizan Alam

### **Abstract**

This study explores the potential adoption of a Direct-to-Consumer (D2C) e-commerce model by Lucky Textile Mills Limited (LTML), a company traditionally focused on B2B operations. The primary aim is to assess how shifting to D2C can improve inventory management, enhance operational efficiency, and boost sales performance within Pakistan's textile industry. Key factors identified through literature include digital literacy, inventory management, digital marketing, and operational efficiency.

The study leverages Innovation Diffusion Theory (IDT), Dynamic Capabilities Theory (DCT), and Economic Order Quantity (EOQ) to understand how these elements contribute to successful D2C adoption. These frameworks collectively highlight the crucial role of digital transformation in aligning LTML's operations with evolving market and consumer demands.

A qualitative research approach was adopted, involving interviews with LTML's management to evaluate their readiness for a D2C shift. The collected data was analyzed using NVivo to identify recurring themes and insights. Findings suggest that D2C e-commerce can help LTML expand its market reach, optimize inventory, and reduce operational costs. The study also emphasizes the importance of integrating digital tools and robust marketing strategies to create efficiencies and remain competitive in the digital age.

The research recommends that LTML adopt a D2C e-commerce model by focusing on strengthening digital literacy, enhancing resource utilization, and aligning products with current market trends. This transformation would not only diversify LTML's business model but also improve profitability and build a stronger domestic presence, thereby ensuring long-term growth in the increasingly digital marketplace.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

### **Effectiveness of Low-Budget Marketing: A Case Study of Cola Next Pakistan**

Group Number: MG - 09  
Group Members: Fairy Robin (MG-077), Zaviar Jabeen (MG-054)  
Arham Ayub (MG-072), Abdul Ahad Memon (MG-030)  
Supervisor Name: Ms. Syeda Zuimah Wasim  
Name of Industrial Supervisor: Mr. Habib Uz Zaman

### **Abstract**

This study examines the effectiveness of low-budget marketing strategies on customer engagement for Cola Next, a local beverage brand in Pakistan. With growing competition from established brands like Coca-Cola and Pepsi, Cola Next relies on cost-effective tactics to capture market attention and build brand loyalty.

The research aims to answer how four key low-cost marketing strategies—Social Media Marketing, Content Marketing, Promotions & Discounts, and Community Engagement—impact customer engagement. Using a quantitative research method, data was collected through structured questionnaires from 424 urban consumers in Karachi.

Reliability analysis confirmed the internal consistency of the data through Cronbach's Alpha values above 0.6. Descriptive and inferential statistics, including Correlation, ANOVA, and Multiple Regression Analysis, were performed using SPSS. Results revealed that Community Engagement and Social Media Marketing have the most significant positive effect on customer engagement. Promotions & Discounts showed a moderate effect, while Content Marketing's impact was insignificant.

The study concludes that for local businesses with limited marketing budgets, interactive social media campaigns, community-driven initiatives, and influencer collaborations are effective tools to improve customer engagement. It recommends Cola Next should enhance its content strategy, increase interactive digital campaigns, and adopt new trends like CGI marketing and gamified promotions. Future research should expand to rural markets and include qualitative insights to capture diverse customer perspectives.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Optimizing Inventory Management and Resource Efficiency - A Case Study of Soorty Enterprises**

Group Number: MG - 10  
Group Members: Syeda Rutaba Ali (MG-037), Kiran Gulzar (MG-032),  
Mahnoor Naeem (MG-036), Omaina Farrukh (MG-034)  
Supervisor Name: Mr. Adnan Khalil  
Co-Supervisor Name: Mr. Muhammad Hamza  
Name of Industrial Supervisor: Mr. Babar Saleem

### **Abstract**

This study explores the challenges of inventory management and resource inefficiency at Soorty Enterprises, one of Pakistan's leading denim manufacturers. Despite adopting ERP systems and lean practices, the company continues to face major issues in inventory tracking, especially during peak seasons. Manual processes, weak departmental coordination, and the absence of real-time tracking systems have resulted in delays, inefficiencies, and financial strain. The central research question is: How can data-driven solutions enhance inventory visibility and resource efficiency at Soorty?

To answer this, the study employed a mixed-methods approach, combining quantitative data from surveys and inventory reports with qualitative insights from interviews with planning, production, and warehouse staff. Key challenges identified include manual inventory transfers, a lack of a centralized system, and delayed Goods Receipt Notes (GRNs). The data revealed substantial gaps in real-time inventory tracking and communication across departments.

Results indicate that digital solutions such as real-time tracking tools, a warehouse management system (WMS), and improved auditing processes could significantly reduce waste, minimize delays, and improve customer satisfaction. Proposed recommendations include redesigning warehouse layouts, adopting standardized digital documentation, and implementing a bin location system.

In conclusion, the research highlights the urgent need for Soorty to transition from fragmented, manual processes to a centralized digital inventory system. This shift is not only essential for operational efficiency but also aligns with global standards for sustainability and competitiveness. The findings serve as a practical roadmap for other textile firms in Pakistan facing similar inventory management challenges.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Value Stream Mapping for Performance Improvement at ElectroPolymers (PVT) Ltd**

Group Number: MG - 11  
Group Members: M Saad Saleem (MG-66), Haseeb Ur Rehman (MG-73),  
M. Mohsin Ali (MG-303), Siddique Ur Rehman (MG-306)  
Supervisor Name: Mr. Adnan Khalil  
Name of Industrial Supervisor: Mr. Muhammad Hammad, Supply Chain Manager (M1),  
ElectroPolymers (PVT) Ltd.

### **Abstract**

This study presents a lean transformation initiative at ElectroPolymers (PVT) Ltd., a key OEM in Pakistan's automotive components sector, aimed at enhancing the efficiency of CD-70 headlamp production. The project was guided by three research objectives: identifying process bottlenecks, evaluating how Value Stream Mapping (VSM) could eliminate those inefficiencies, and laying the foundation for a long-term continuous improvement lean culture at EPL.

Using an action research design, the project was executed in two iterative phases. Phase 1 addressed packaging inefficiencies and assembly idle time, reducing packaging cycle time from 2.0 to 1.6 seconds per unit and assembly cycle time from 5.3 to 5.0 seconds by eliminating 30 minutes of idle time through a weighted sampling solution. Phase 2 improved material flow by relocating the packaging line next to assembly, which eliminated 1 day of Lead Time and Work-In-Progress (WIP) inventory, and reduced handling mishaps and defect rates. Data was collected through Gemba walks, time studies, pilot testing, and 3D simulations. As a result, Parts Per Hour (PPH) in packaging increased from 1,700 to over 2,100.

The study concludes that the structured application of VSM under real-world constraints can drive significant performance gains with minimal resource input. Policy recommendations encourage local industries to adopt lean tools like VSM for scalable, data-driven improvements and promote investment in cross-functional training and low-cost experimentation. The project demonstrates how collaborative, iterative improvement efforts can translate lean theory into measurable gains for manufacturing firms in emerging markets.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

### **Evaluating the Benefits and Challenges of Digital Procurement Transformation at DP World**

Group Number MG-12

Group Members: Samra Khan (MG-047), Saad Hasan (MG-026)  
Muhammad Arib Hussain (MG-071) Fareeha Arif (MG-061)

Supervisor Name: Mr. Adnan Khalil

Name of Industrial Supervisor: Mr. Tanveer Ur Rehman (Manager Procurement DP World)

#### **Abstract**

This project examines the transition of DP World, a major logistics company, from a manual to a digital procurement process using Oracle Fusion. Conducted by a research group from NED University's Management Sciences Department (Batch 2021-2025), this paper aims to identify the advantages and disadvantages of this transformation. The methodology employed a combination of interviews with the procurement team and data analysis for information collection.

The results indicate that electronic procurement significantly enhanced efficiency. Order processing time decreased from 25-30 days to approximately 15 days, and annual expenses declined from PKR 50 million to PKR 42 million. The digital system also simplified supplier management with improved data tracking and fewer errors. Despite these benefits, challenges arose from suppliers' difficulty in adjusting to the new environment due to limited online capabilities and weak internet connectivity, particularly in rural areas. Internally, employees required training for the transition, but strong leadership support and a culture of innovation helped overcome these barriers.

The research suggests that continuous training for both staff and suppliers, along with adaptive approaches tailored to various regions, can facilitate this digital shift. Furthermore, leveraging sophisticated technologies such as AI and blockchain could further improve efficiency and transparency. This paper identifies how digital tools can revolutionize procurement, aligning with sustainable development goals such as economic growth, industry innovation, responsible consumption and production, and strong institutions (SDG 8, 9, 12, 16). It provides practical guidance for DP World and similar organizations and calls for future research on the long-term effects and local variations in digital adoption.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

### **Analyzing Waste To Achieve Sustainable Development Goals (SDGs) And Create A Sustainable Supply Chain Model: A Case Of EBM Pakistan**

Group Number: MG - 13  
Group Members: Sana Sarfaraz Ali (MG-018), Sidra-Tul-Muntaha (MG-040)  
Tahreem Almas (MG-046), Madina Habibullah (MG-076)  
Supervisor Name: Dr. Mirza Faizan Ahmed  
Co-Supervisor Name: Dr. Shabbir Ahmed  
Name of Industrial Supervisor: Mr. Khurram Abbas (Assistant Production Manager, EBM)

#### **Abstract**

This study investigates production waste at English Biscuit Manufacturers (EBM) Pakistan, a crucial endeavor for profitability and sustainability in the competitive FMCG sector. The research aimed to identify waste sources, assess their impact on EBM's sustainability and efficiency, and propose actionable minimization strategies.

Guided by the Process Innovation Approach and Lean Manufacturing tools like VSM, TIMWOOD, 5S, Poka-Yoke, and PDCA, data was collected through industrial visits, observations, and interviews with production managers, supplemented by company waste logs and input-output figures. Analysis using descriptive statistics and Pareto analysis revealed packaging as the most significant waste stage, followed by mixing and cutting. The study identified process inefficiencies, recommending simple interventions like auto-dosing and operator training.

It concludes that even minor process improvements can significantly reduce waste and boost profit margins, particularly for FMCG firms. Policy recommendations advocate for adopting lean strategies across all production lines and embedding continuous waste monitoring for long-term gains.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

#### **Project Title:**

### ***Strategies of Labor Cost Reduction in Production Department of EBM***

Group Number : MG-14  
Group Members: Amna Rais (MG-048), Syeda Mariam Zehra Zaidi (MG-055)  
Hiba Batool (MG-057), Mohammad Hussain (MG-070)  
Supervisor Name: Dr. Mirza Faizan Ahmed  
Name of Industrial Supervisor: Khurram Abbas

#### **Abstract**

This study investigates economical strategies to reduce labor costs within English Biscuit Manufacturers (EBM) Pakistan's production department, specifically focusing on Line 8, which produces Sooper Chocolate biscuits. The core objective was to determine how labor costs could be lowered while maintaining productivity and employee satisfaction.

A mixed-methods approach was employed, combining quantitative data from structured surveys of 48 randomly selected employees with qualitative insights from direct observations across the Mixing, Cutting, and Packaging sections and interviews with staff and management. Time and motion studies, labor efficiency metrics, and production output data were analyzed to pinpoint inefficiencies.

Findings revealed that modifying task structures and optimizing labor allocation significantly reduced costs. For instance, in the mixing section, lighter flour bags enabled one worker to do the job of two. In cutting, a skilled trainee replaced a senior operator, allowing reassignment. In packaging, machine optimization reduced the number of machines from five to four while increasing speed, eliminating ten labor positions without impacting output.

The study concludes that strategic actions like task modification, workforce training, and machine optimization successfully reduce labor costs. Recommendations include implementing lean manufacturing techniques, investing in cross-training, and regularly assessing production workflows to boost labor efficiency while ensuring job security.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Comprehensive Analysis of Modern Tools of Supply Chain in Top Pharmaceutical Companies to Improve Post Production Distribution System**

Group Number

MG - 15

Group Members:

M.Mustafa Raza Siddiqui (MG-016), Waqas Younis (MG-029),  
Muhammad Taha Kazmi (MG-301), Zunair Shah (MG-074)

Supervisor Name:

Dr. Muhammad Shahid Iqbal

### **Abstract**

This study analyzes the use of modern supply chain tools to enhance post-production pharmaceutical distribution in Pakistan. It focuses on how technologies such as Artificial Intelligence (AI), Internet of Things (IoT), Blockchain, Enterprise Resource Planning (ERP), and Cold Chain Systems are transforming supply chain processes in leading pharmaceutical firms. The central research question is: How effectively are digital tools being integrated into post-production pharmaceutical supply chains in Pakistan, and what impact do they have on performance, safety, and efficiency?

A mixed-methods approach was used, combining qualitative insights from literature and company reports with quantitative analysis of financial data, technology adoption trends, and operational outcomes from ten major pharmaceutical companies in Pakistan. Secondary data sources included annual reports, industry databases (PPMA, DRAP), and global benchmarks from the U.S., Germany, and Japan. Findings reveal that modern technologies improve transparency, efficiency, quality control, and traceability. Multinational firms lead in adoption due to better infrastructure and resources.

The study concludes that broader implementation of these tools can reduce delivery delays, cut costs, and combat counterfeit drugs. Key policy recommendations include incentivizing digital adoption, upgrading logistics infrastructure, enhancing regulatory support, and investing in workforce training. These steps can strengthen Pakistan's pharmaceutical supply chain, improve competitiveness, and ensure timely delivery of safe, high-quality medications.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Role & Importance of Logistics in The Development Of A Sustainable Modern Supply Chain Management**

Group Number

MG - 16

Group Members:

Kinza Sarwar (MG-43), Abdul Ahad Ali Khan Yousfi (MG-67)  
Syed Muslim Abbas Zaidi (MG-69), Musfirah Nasir Lodhi (MG-307)

Supervisor Name:

Mr. Talha Ahmed Siddiqui

### **Abstract**

This study investigates the pivotal role of logistics in developing a sustainable modern supply chain at Power Cement Limited, a leading Pakistani cement manufacturer. Recognizing the cement industry's substantial environmental footprint, particularly in logistics operations like procurement, warehousing, and transportation, the research explores how sustainable practices can enhance both environmental performance and operational efficiency. An applied qualitative approach was adopted, utilizing interviews and surveys with supply chain personnel at Power Cement, with data analyzed descriptively within a deductive and exploratory framework.

Findings indicate that while Power Cement has implemented green practices, including solar power, waste-heat recovery, and IoT tracking, the company faces constraints in funding, technical expertise, and modern IT infrastructure. Although staff demonstrated high awareness of environmental goals and sustainability was integrated into procurement and logistics decisions, challenges such as rising fuel costs, supplier delays, and limited digital capabilities hinder the full implementation of sustainable logistics.

The study concludes that strategic investment in digital tools (ERP systems, real-time tracking), expansion of low-emission fleets, and structured stakeholder collaboration are essential for achieving long-term sustainability. Policy recommendations include formalizing green Key Performance Indicators (KPIs), implementing supplier training programs, and enhancing data-driven decision-making processes.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **The Critical Importance of Real-Time Inventory Visibility and Technological Solutions to Improve Visibility: Soorty Enterprises Pvt.**

Group Number MG - 17

Group Members: Maira Faheem (MG-305), Javeria Fatah (MG-302)  
Hafsa Ansari (MG-019), Uroosa Sarfaraz (MG-030)

Supervisor Name: Dr. Muhammad Shahid Iqbal

### **Abstract**

This study focuses on improving inventory visibility at Soorty Enterprises Pvt Ltd, a leading textile manufacturer in Pakistan. The project investigates how limited real-time inventory tracking and a dependence on manual processes affect production efficiency and overall supply chain performance. The research aims to identify the technological challenges within Soorty's inventory system and evaluate practical, low-cost solutions that can reduce operational disruptions and support lean manufacturing. The main research questions explore which technologies can address Soorty's visibility issues and how improved traceability can reduce both financial and non-financial supply chain costs.

A mixed-methods approach was used to gather data. Quantitative data was collected through structured surveys and analysis of key performance indicators, while qualitative data was drawn from open-ended employee feedback across multiple departments. The study also included benchmarking Soorty's inventory practices against other major textile firms in Pakistan to evaluate relative performance and technology adoption trends.

The results revealed that Soorty's current system suffers from data mismatches, real-time tracking gaps, and manual workarounds. However, employees showed a strong willingness to adapt if better systems were introduced with adequate training. The findings showed that cost-effective technologies like barcode systems and cloud-based ERP could immediately improve tracking, while IoT and RFID could be implemented gradually for high-value items.

The study concludes that real-time visibility is essential for improving efficiency. Policy recommendations include initiating digital training programs, promoting cross-functional coordination, and adopting a phased technology plan to ensure scalability and long-term gains for both Soorty and the broader textile sector.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Management Sciences

Project Title:

## **Impact of Digital Transformations in the Achievement of Sustainable Supply Chain Management – A Case Study of Agha Steels**

Group Number: MG - 18  
Group Members: Ramsha Zulfiqar (MG-045), Laiba Shahid (MG-052)  
Ayesha Nadeem (MG-058), Zubia Ahmed (MG-059)  
Supervisor Name: Mr. Adnan Khalil  
Name of Industrial Supervisor: Mr. Noman Rashid

### **Abstract**

This study examines how digital transformation can improve sustainable supply chain management (SSCM) in the steel industry, focusing on Agha Steel Industries Limited (ASIL) in Pakistan. As the global steel industry faces increasing pressure to reduce carbon emissions and enhance energy efficiency, technologies such as artificial intelligence (AI), the Internet of Things (IoT), big data analytics, and ERP systems are becoming key enablers of sustainability. The central research question explores how digital technologies can promote sustainability and operational efficiency within the steel supply chain, particularly in emerging markets.

Using a comparative case study approach, this study analyzes the digital transformation practices of five steel companies: Agha Steel, Tata Steel (India), ArcelorMittal (Europe), Baosteel (China), and Gerdau Group (Brazil). Secondary data was collected from annual reports, sustainability documents, and academic sources. Based on the Resource-Based View (RBV) and Dynamic Capabilities Theory (DCT), this study examines how companies can leverage digital resources and adapt to changing environments.

The findings show that while global leaders have effectively integrated AI, IoT, and smart systems to optimize their operations and achieve the United Nations Sustainable Development Goals (SDGs), Agha Steel continues to face challenges such as inadequate inventory forecasting, energy inefficiency, and fragmented digital systems. However, through targeted investments in real-time integration, predictive analytics, and cloud platforms, ASIL can significantly improve sustainability.

The study concludes with policy recommendations for Pakistani steel companies to implement a scalable digital strategy to foster industry innovation and support the country's sustainability agenda.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### **Program: Bachelor in Economics and Finance**

Project Title:

### **Macroeconomics Stress Testing in Pakistan: A Case of Banking Sector**

Group Number EC- 01

Group Members: Muslim Ali Agha, Zunaira Aftab, S.M. Naqi, S. Hussam Haider

Supervisor Name: Dr. Shabbir Ahmed

Name of Industrial Supervisor: Mr. Muhammad Tauqueer

### **Abstract**

This project developed a macroeconomic stress testing model for Pakistan's banking sector to assess its resilience against adverse economic conditions. Given the increasing uncertainties in both local and global markets, it's crucial to understand how banks would fare under various economic shocks, such as sudden inflation, rising interest rates, or a global recession.

Our central question was: Can Pakistan's banks remain robust during economic crises, and how can we enhance the efficacy of risk testing methodologies? To address this, we employed various economic modeling techniques, including Ordinary Least Squares (OLS), Autoregressive Distributed Lag (ARDL), and Vector Error Correction Model (VECM), selecting the most suitable approach based on our data characteristics. We utilized quarterly data from 2000 to 2023, sourced from reliable institutions like the State Bank of Pakistan, World Bank, International Monetary Fund (IMF), and Pakistan Bureau of Statistics (PBS).

The findings indicate that Pakistani banks are particularly vulnerable to inflation and interest rate increases, which can rapidly elevate non-performing loans and erode capital strength. Under worst-case scenarios, many banks struggle to maintain adequate capital buffers to ensure stability.

Therefore, stress testing should become a regular and integral component of financial planning and regulation. To enhance its effectiveness, we recommend that policymakers and banks collaborate to improve data quality, conduct more realistic scenario testing, and establish stronger capital buffers. Implementing these measures will better equip Pakistan's banking sector to navigate future economic challenges.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Export Strategies and Industrial Growth: A Comparative Analysis of South Asian Regions**

Group no: EC-02  
Group members: Yusra, Muniba Arshad, Fakhare Alam, Zain Abbas  
Supervisor name: Dr Muhammad Shahid Iqbal

#### **Abstract**

This study explores the intricate relationship between export strategies and industrial growth within the textile sectors of South Asian countries, specifically Pakistan, India, Bangladesh, and Sri Lanka. Through a comparative analysis grounded in the gravity model of trade and utilizing a panel dataset spanning 1992–2022, the research investigates how economic size, geographical distance, trade agreements, and logistical efficiency influence bilateral trade flows.

The textile industry, a cornerstone of employment and export revenue in the region, is analyzed with a focus on market diversification, export intensity, and product differentiation. Findings reveal that while Bangladesh leverages low labor costs and preferential trade access to dominate global garment exports, India thrives on product diversification and technological advancements. Conversely, Pakistan struggles with infrastructural and policy inefficiencies, and Sri Lanka faces cost pressures despite its niche in high-value textiles.

A significant finding is the underperformance of intra-regional trade, which contradicts gravity model predictions due to political tensions, non-tariff barriers, and inadequate trade facilitation. The study further employs simulation-based analysis to quantify potential trade gains from enhanced regional cooperation, digital infrastructure, and logistics improvements.

Policy recommendations emphasize the need for harmonized trade regulations, investment in sustainable practices, and institutional reforms. By aligning export strategies with broader development goals and fostering regional integration, South Asian countries can improve industrial competitiveness and achieve long-term economic resilience. This research offers valuable insights for policymakers and stakeholders aiming to transform the region into a cohesive and globally competitive textile hub.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Measuring the Willingness to Pay for Electricity in Karachi**

Group Number                      EC- Group 03  
Group Members:                      Safa Abid EC- 21, Shifa Saeed EC-06,  
    Manahil Fatima EC -12, Usman Ahmed EC -37  
Supervisor Name:                      Dr. Mirza Faizan Ahmed  
Co-Supervisor Name:                      Mr. Talha Ahmed Siddiqui

#### **Abstract**

This study investigates the willingness to pay (WTP) for electricity among residential households in Karachi, Pakistan—a rapidly urbanizing city grappling with chronic electricity shortages, unreliable service, and affordability constraints. The project aims to understand how socio-economic factors influence household WTP and how this compares with existing electricity tariffs, particularly in low-income and informal urban settlements.

The study was guided by three research questions: identifying key WTP determinants, estimating average household WTP, and comparing WTP to current tariffs. We adopted a cross-sectional survey methodology, collecting data from 400 households using a structured questionnaire. This questionnaire covered demographics, electricity usage, service satisfaction, and hypothetical service improvement scenarios. The Contingent Valuation Method (CVM) was employed to estimate WTP under improved service conditions. Data analysis involved descriptive statistics and subgroup comparisons using SPSS.

Findings reveal that income, service reliability, and quality of lighting are the most influential drivers of WTP. Over 57% of respondents were unwilling to pay more than PKR 10 per unit, highlighting significant affordability constraints. Only 6% expressed willingness to pay a premium for guaranteed electricity. Lower-income groups, especially those earning under PKR 50,000, are disproportionately affected by current tariffs and rely solely on grid power. Dissatisfaction with service and load shedding significantly dampens WTP.

The study concludes that current pricing models fail to reflect the diverse economic realities and service expectations of Karachi's households. It recommends implementing tiered, service-quality-sensitive tariffs, targeted subsidies for low-income groups, and improved transparency to build trust and reduce electricity theft. These reforms are essential for creating an equitable and sustainable urban energy system in Karachi.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

## **Analysis of the Uses of FCF in Shariah compliant-listed Companies in PSX**

Group Number                      EC- 04  
Group Members:                  Samiullah, Syeda Tooba Jaffri, Musfirah Imran, Aiman Hamid  
Supervisor Name                  Dr. Mirza Faizan Ahmed

### **Abstract**

This study investigates the uses and implications of Free Cash Flow (FCF) in Shariah-compliant companies listed on the Pakistan Stock Exchange (PSX), specifically focusing on firms included in the KMI-30 Index from 2014 to early 2024. The research addresses a critical gap in the literature by exploring how Islamic financial principles, which prohibit interest-based transactions and speculative investments, influence the generation and allocation of FCF.

The primary research questions guiding this study are:

1. What are the historical patterns of FCF generation and distribution in these firms?
2. How is FCF utilized by these firms?
3. What is the relationship between FCF and share price performance?

Methodologically, the study employs panel data regression using financial data from 18 companies. Two models were evaluated: Model 1 examines the relationship between FCF and share price, while Model 2 explores FCF's associations with dividend payout, debt repayment, and interest expense. Statistical tests, including the Breusch-Pagan and Hausman tests, confirmed the Random Effects Model as the most appropriate for this analysis.

Key findings indicate a strong positive and significant relationship between FCF and share price, particularly within capital-intensive sectors such as automobiles. Dividend payout was also significantly associated with higher FCF levels, reflecting strong financial health and investor confidence. Conversely, debt repayment and interest expenses were found to be statistically insignificant, aligning with Islamic finance's aversion to interest-bearing liabilities.

In conclusion, FCF is a critical indicator of financial performance in Shariah-compliant firms. Policy recommendations include encouraging transparent FCF reporting, adopting standardized FCF calculations (e.g., Corrected FCF), and aligning dividend policies with liquidity strategies to enhance investor trust and financial governance in Islamic financial markets.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Income Inequality and Economic Growth: A Panel Data Analysis Across South Asian Countries**

Group: EC-05  
Group Members: Maria Arif, Manal Ali, Areeba Danish, Kashaf  
Supervisor: Dr. Manzoor Hussain

#### **Abstract**

This study explores the intricate relationship between income inequality and economic growth in seven developing economies across South and Southeast Asia: Pakistan, India, Bangladesh, Sri Lanka, China, Vietnam, and Cambodia. Employing a comprehensive panel data analysis from 1990 to 2020, the research investigates how various macroeconomic indicators influence income inequality, measured by the Gini coefficient. The selected independent variables include GDP per capita, GDP squared (to test the Kuznets hypothesis), employment rate, consumer price index (CPI), government debt as a percentage of GDP, and public health expenditure.

The methodological framework began with the application of the Pooled Ordinary Least Squares (POLS) model. Subsequent diagnostic testing, specifically the Breusch-Pagan Lagrange Multiplier (LM) test, indicated the presence of panel effects. The Hausman test further validated the preference for a Fixed Effects Model (FEM) over the Random Effects Model (REM).

Results from the FEM analysis reveal that employment rate and public health expenditure significantly reduce income inequality, emphasizing their critical role in fostering inclusive economic growth. Interestingly, GDP per capita and government debt appeared statistically insignificant, suggesting that economic expansion alone does not necessarily ensure equitable income distribution, thus partially validating the Kuznets curve hypothesis.

The findings underscore the importance of labor market reforms, public sector investment in health, and inflation control as essential measures to mitigate inequality. Despite limitations in data completeness and variable availability, this study offers valuable insights into policy formulation aimed at promoting balanced socio-economic development in the region. It also highlights areas for future research, particularly the inclusion of governance quality and education as potential determinants of inequality.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### **Program: Bachelor in Economics and Finance**

Project Title:

### **Assessing National Priority Sector Export Strategy: A Case of Pakistan**

Group Number: EC - 06  
Group Members: Alishba Mehmood, Hasnain Raza, Maham Tariq  
Supervisor Name: Dr. Farhan Ahmed  
Industrial Supervisor Name: Umair Ali Sangi

### **Abstract**

This study examines the export performance of Pakistan's national priority sectors—including textiles, agriculture, pharmaceuticals, minerals, fisheries, and sports goods—with a focus on identifying barriers and recommending strategies to enhance global competitiveness. Despite significant export potential, these sectors face structural inefficiencies such as outdated technology, fragmented logistics infrastructure, limited market intelligence, and weak policy execution.

The research adopts a qualitative methodology, utilizing in-depth interviews with ten experts from the Trade Development Authority of Pakistan (TDAP) and sector professionals. Thematic analysis, supported by NVivo software, reveals that political instability, inconsistent governance, and a lack of targeted government support have eroded exporter confidence and investment inflows. Small and Medium Enterprises (SMEs), the backbone of several sectors, are particularly constrained by limited access to finance, complex export registration processes, and difficulty meeting international standards. While existing policy instruments such as subsidies and trade fairs offer some support, their reach remains limited due to poor implementation and bureaucratic barriers.

The findings underscore the need for a cohesive, sector-specific export strategy emphasizing stability, innovation, streamlined support mechanisms, and SME empowerment. Additionally, the study advocates for market diversification, particularly toward emerging regions such as Africa, Latin America, and Central Asia. By aligning policy design with execution and building institutional capacity, Pakistan can unlock its export potential and position itself more competitively in global trade. This research offers actionable insights for policymakers and stakeholders committed to sustainable economic development through trade.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

## **STUDY OF FINANCIAL CROWDING IN AND CROWDING OUT IN PAKISTAN**

Group Number: EC- 07  
Group Members: Simrah Siddiqui , Hibah Fayyaz , Insia Raza , Layba Zaheer  
Supervisor Name: Dr M Shahid Iqbal  
Co-Supervisor Name: Talha Ahmed

### **Abstract**

This study investigates the impact of government borrowing and public expenditure on private investment in Pakistan, focusing on the phenomena of financial crowding-in and crowding-out from 1990 to 2024. The central research question examines whether public debt and government spending stimulate or hinder private sector investments, thereby influencing economic stability and growth.

Employing a quantitative research design, the study utilizes the Autoregressive Distributed Lag (ARDL) model to analyze time series data. This approach ensures robustness in capturing both short-term and long-term relationships among key variables such as public borrowing, government expenditure, interest rates, and domestic investments. Data sources include reputable international and local databases, with secondary data spanning over three decades to reflect various economic conditions.

The empirical findings reveal that public borrowing and government expenditure have a mixed impact on private investment: while certain types of government spending, especially on infrastructure, tend to crowd in private investment, overall public debt exhibits a tendency toward crowding out private sector activity in the short to medium term. These results suggest that fiscal policies significantly influence private sector dynamics, with critical implications for economic growth and stability in Pakistan.

The study concludes that balanced fiscal management, emphasizing productive public investments and sustainable borrowing, is crucial to fostering a conducive environment for private sector development. Policy recommendations include prioritizing infrastructure development, controlling public debt levels, and implementing targeted fiscal reforms to promote crowding-in effects, ultimately supporting sustainable economic growth in Pakistan.



**Program: Bachelor in Economics and Finance**

Project Title:

**Potential of Tax Collection in Karachi: A Case of Business Community**

Group Number: EC- 08

Group Members: Hamna Tahir, Ayesha Mustaqim, Saad Imran, Syed Huzaifa Shahid

Supervisor Name: Dr. Shabbir Ahmed

**Abstract**

This paper investigates the persistent problem of a low tax-paying culture among the business community in Karachi and its repercussions for Pakistan's fiscal health. Although Karachi serves as the country's economic hub, its tax collection performance remains suboptimal, often attributed to a lack of confidence in government organizations, perceptions of tax unfairness, and insufficient tax literacy. The main research question addressed is: What are the determinants of the willingness of businesses in Karachi to pay taxes voluntarily?

The study employed a mixed-methods approach, combining quantitative surveys (232 businesses) with qualitative field interviews. Primary data were collected using structured questionnaires based on a 5-point Likert scale, complemented by secondary information from the Federal Board of Revenue (FBR), Pakistan Bureau of Statistics (PBS), and State Bank of Pakistan (SBP). The effect of five key variables—trust in government, perceived fairness, tax knowledge, audit experience, and marginal tax burden—on willingness to pay taxes was assessed using binary logistic regression.

The findings indicate that the most relevant factors predicting voluntary tax compliance are trust in government and perceived fairness of the tax system. Conversely, the statistically significant influence of audit fear, tax knowledge, and tax rates was found to be minor. Interestingly, 87.5 percent of respondents expressed readiness to pay higher taxes provided there was a tangible improvement in the delivery of public services.

The paper concludes that to establish a robust culture of tax compliance, it is essential to regain public trust and enhance the sense of equity within the tax system. Policy suggestions include improving transparency, simplifying tax procedures, promoting digital literacy, and initiating public awareness campaigns that explicitly demonstrate the link between tax payments and the provision of public services. These reforms are crucial for fostering a long-lasting and fair fiscal system in Pakistan.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### **Program: Bachelor in Economics and Finance**

Project Title:

### **Public debt and its impact on household**

Group Number: EC-09  
Group Members: Safa Kanwal, Laiba Iqbal, Sara Ali, Abdul Rafay Abbasi  
Supervisor Name: Dr Shabbir Ahmed  
Co-Supervisor Name: Ms Maham Fatima

#### **Abstract**

This study investigates the impact of rising public debt on household welfare in Pakistan. With increasing fiscal deficits and a growing reliance on both domestic and external borrowing, Pakistan's economy has experienced reduced fiscal space for critical public services like education and healthcare. This report explores how public debt influences final household consumption expenditure (FHC) by analyzing macroeconomic data from 1994 to 2024. Using the Auto-Regressive Distributed Lag (ARDL) model, the study examines the relationships between FHC and key independent variables: public debt, total government expenditure, education expenditure, and health expenditure.

The findings reveal that in the long run, public debt has a negative impact on household consumption. This indicates that increased debt burdens lead to reduced household spending, possibly due to anticipated future taxation or inflation. Similarly, total government expenditure, health spending, and education spending also show significant negative relationships with household consumption, suggesting that the benefits of such expenditures may not directly or immediately translate into improved household welfare.

This research provides critical insights for policymakers by highlighting the indirect socioeconomic consequences of unsustainable debt levels. It emphasizes the need for more efficient and targeted public spending, along with long-term strategies for sustainable debt management. The study also contributes to broader academic discussions on public finance, fiscal policy, and inequality, especially in the context of developing countries like Pakistan.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

## **Role of Investor Sentiments and Performance Expectations on Mutual Funds and ETFs**

Group Number:

EC - 10

Group Members:

Saifullah, Muhammad Yasir Ata, Abdullah Khan Sherwani

Supervisor Name:

Mr. Muhammed Naeem

### **Abstract**

This research paper, titled "Role of Investor Sentiments and Market Performance on Mutual Funds and Exchange Traded Funds (ETFs)," explores the influence of investor sentiment, economic indicators, and market volatility on the performance of Money Market Mutual Funds (MMMFs) and ETFs in Pakistan. The study investigates how these variables affect investor behavior and fund fluctuations, aiming to identify optimal investment preferences among retail investors.

A mixed-methods approach was employed. Quantitative analysis was conducted for MMMFs using data from 2014 to 2023. Due to data limitations, qualitative insights were gathered for ETFs from 2021 to 2023. Data sources included the Pakistan Stock Exchange (PSX), Mutual Funds Association of Pakistan (MUFAP), and State Bank of Pakistan (SBP). Regression analysis was applied to both top-performing mutual funds and the overall fund pool.

Findings indicate that GDP and interest rates negatively impact mutual fund performance, while inflation and market volatility have a positive effect. The Ramsey RESET test confirmed the model specification. For ETFs, given their recent introduction, a qualitative analysis revealed that they are aggressive performers, attracting professionals and young investors (aged 18–35) seeking high returns. Investors demonstrated high awareness and comfort with market fluctuations and exhibited a tendency towards socially influenced investment decisions.

The study concludes that investor sentiment and macroeconomic conditions significantly affect fund selection. Policy recommendations include improving investor education, enhancing fund transparency, and supporting ETF development to broaden market participation and financial inclusion in Pakistan's financial markets.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### **Program: Bachelor in Economics and Finance**

Project Title:

### **From Access to Prosperity: How Financial Inclusion Fuels Economic Development**

Group Number EC- 11

Group Members: Huda (EC-21002), Sharfa Afzal (EC-21004), Mawara Altaf (EC-21014), Mamta Kumari (EC-21078)

Supervisor Name: Dr. Manzoor Hussain Memon

Co-Supervisor Name: Talha Ahmed Siddiqui

### **Abstract**

This study analyzes the impact of financial inclusion (FI) on both conventional economic growth (GDP) and green economic growth (GEG) across eight high carbon-emitting countries: Australia, Brazil, India, Japan, Netherlands, Pakistan, and Spain. Utilizing annual data from 2006 to 2023, sourced from reputable international and local databases, the research constructed a Financial Inclusion Index using Principal Component Analysis. The analysis adopted a random effects model, confirmed by Lagrange Multiplier and Hausman tests.

Findings reveal that while FI positively and significantly impacts GDP, it negatively and significantly affects GEG, highlighting a critical area for policy intervention. Primary energy consumption negatively influences GEG, whereas forest area and GDP show positive effects. Additionally, education and population positively contribute to GDP, while unemployment negatively affects it.

The research provides crucial evidence-based recommendations for policymakers addressing climate change. It emphasizes the need to align financial inclusion with sustainability by incorporating environmental risk assessments in lending decisions, promoting ESG compliance, and enforcing green banking regulations. The study also advocates for advancing green financial products, fintech platforms, fiscal incentives, and literacy programs. Country-specific strategies are advised, including enhancing rural access in Pakistan and India, promoting conservation financing in Brazil, and fostering climate innovation in Spain, the Netherlands, Japan, and Australia, ultimately contributing to sustainable development.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **From Cash to Clicks: How Innovative Finance Apps are Transforming Financial Inclusion in Pakistan**

Group Number: EC- 12  
Group Members: Sani-e-Zehra, Warda Kazmi, and Muhammad Abdullah  
Supervisor Name: Dr. Farhan Ahmed  
Name of Industrial Supervisor: Mr. Abdul Ghaffar

#### **Abstract**

This paper investigates the crucial role of financial inclusion and the factors influencing its awareness among marginalized segments of society in Pakistan. The core objective is to assess the effectiveness of the National Financial Inclusion Strategies, specifically those aligned with the State Bank of Pakistan's (SBP) Vision 2028 goals, which aim to enhance financial inclusion levels and awareness through various government initiatives. A descriptive and explanatory research design was adopted, utilizing primary data collected from residents of urban slum areas in Karachi, Pakistan, representing a disadvantaged geographic segment.

Quantitative data was meticulously analyzed using various statistical tests to derive valuable insights. The study incorporated key variables such as Access, Usage, Quality, and Actual Usages of financial services. The complex interrelationships between these variables were examined through Simple Linear Regression (SLR) and Pearson Correlation tests. Furthermore, the factors influencing awareness levels were categorized based on respondents' gender, education, age, income levels, and geographic region.

The findings reveal a strong positive relationship between the Actual Usages of financial services and their Access, Usage, and Quality. Crucially, the study also highlights a profound impact of socio-demographic factors—including gender, age, education, and income levels—on financial inclusion awareness. Moreover, the research identifies innovation in financial technology (FinTech) as an efficient lever that significantly elevates financial inclusion among urban slum dwellers. These insights underscore the necessity of targeted interventions to improve financial literacy and access, particularly for vulnerable populations, to achieve the broader objectives of financial inclusion in Pakistan.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Assessing Business Ratings of Asset Management Companies: A Case of AKD Investment Management Limited.**

Group Number: EC- 13

Group Members: Fizza Faisal, Ghadiya Abdullah, Subika Nadeem, Ahsan Rizwan

Supervisor Name: Dr. Farhan Ahmed

Name of Industrial Supervisor: Mr. Danish Aslam (Senior Fund Manager)

#### **Abstract**

This study focuses on strategies to enhance the business credit rating of AKD Investment Management Limited (AKDIML), a prominent asset management company in Pakistan, currently rated AM3++ by PACRA. The central challenge addressed is the circular dependency where a higher rating is needed to attract more retail investors, but a larger retail investor base could, in turn, facilitate a rating upgrade.

Adopting a qualitative, exploratory research design, the study conducted semi-structured interviews with seven of AKDIML's existing clients who had expressed concerns regarding their investment experience. Through purposive sampling and thematic analysis using NVivo, key patterns related to risk management, financial structuring, and investment strategy were identified. The findings indicate that despite AKDIML's progress in diversification and compliance, inconsistent performance of its equity mutual funds remains a significant hurdle to achieving a higher AM2 credit rating. Critical contributing factors include market volatility, concentration risks, and suboptimal portfolio management.

The study concludes that to break the rating-investor confidence loop, AKDIML must prioritize operational restructuring, enhance its risk management frameworks, and introduce value-added services. Policy recommendations emphasize the adoption of global best practices in corporate governance, strengthening portfolio management capabilities, and proactive marketing efforts to build investor trust. This research provides a practical roadmap for AKDIML and similar firms operating in volatile markets, aiming to improve business ratings and strengthen market competitiveness.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

## **Environmental Sustainability in Pakistan: The Interplay of Governance, Green Economy, and Environmental Management Systems**

Group Number:

EC-14

Group Members:

Insharah Qaiser, Mushfa Saira and Savia Shakeel

Supervisor Name:

Dr. Manzoor Hussain Memon

Co-Supervisor Name:

Dr. Shabbir Ahmed

### Abstract

This study investigates the critical interaction between governance, the adoption of Environmental Management Systems (EMS) like ISO 14001, and green economy initiatives in Pakistan, aiming to integrate economic growth with environmental sustainability. The primary research question explores the effectiveness of ISO 14001 in enhancing environmental performance and analyzes how specific governance indicators influence green growth metrics, including CO<sub>2</sub> emissions, PM2.5 levels, renewable energy production, and green technology adoption.

Employing a mixed-method approach, the study utilizes Grey Relational Analysis and Autoregressive Distributed Lag models to assess long-run and short-run dynamics. Time-series data from 2000 to 2022 were collected from reliable sources such as World Governance Indicators, OECD, ISO surveys, and Our World in Data.

Key findings reveal a strong association between ISO 14001 certifications and reduced CO<sub>2</sub> emissions and improved green technology, although their adoption is often concentrated in high-emission industries, raising concerns about symbolic compliance. Governance indicators like Voice and Accountability and Government Effectiveness significantly reduce environmental degradation. However, Regulatory Quality shows weaker impacts, indicating policy enforcement gaps. Interestingly, the Rule of Law positively correlates with emissions, suggesting that industrial growth in well-governed economies may initially offset environmental gains.

The study concludes that robust governance frameworks, combined with effective EMS adoption, are crucial for Pakistan's sustainable transition. Policy recommendations include strengthening institutional coordination, incentivizing genuine ISO 14001 compliance, and fostering public participation to align economic development with environmental goals.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Pre and Post Analysis of Socioeconomic impact along Green Line BRT Routes**

Group Number: EC- 15  
Group Members: Wajiha Ali, Syeda Hurman Ahmed, Hafsa Sheikh, Moizullah  
Supervisor Name: Ms. Maham Fatima  
Name of Industrial Supervisor (if any): Mr. Abdul Aziz

#### **Abstract**

This study, titled "Pre and Post Analysis of the Socioeconomic Impact along Green Line BRT Routes," investigates the multifaceted implications of Karachi's Green Line Bus Rapid Transit (BRT) system. It aims to assess the system's effectiveness in enhancing public mobility, affordability, and gender-responsive infrastructure. The research focuses on three core objectives: evaluating social impacts, determining economic benefits in terms of cost savings, and assessing the BRT's responsiveness to women's transportation needs.

A mixed-method research design was employed, incorporating both qualitative and quantitative surveys from 377 respondents across seven BRT stations. Data was statistically analyzed using cross-tabulation and chi-square tests.

The findings reveal significant improvements in social impact dimensions, including travel time, reliability, efficiency, accessibility, and overall satisfaction with service quality. Economically, the BRT system has proven to be a cost-effective alternative, with most users reporting reduced transportation expenses and notable monthly savings. In terms of gender-related findings, the provision of dedicated seating and regulated boarding processes enhanced safety for female passengers; however, issues such as visual harassment persist.

The study concludes that while the Green Line BRT has effectively improved transport accessibility, affordability, and inclusiveness, existing operational gaps—particularly in coverage, peak-hour congestion, and gender sensitivity—require targeted reforms to fully realize its potential. The study recommends expanding BRT routes with feeder systems, implementing gender-sensitivity training for staff, and launching public awareness campaigns. Further, it suggests setting up organized vending zones and providing support to small business owners near BRT stations to ensure clean, safe operating areas without blocking pathways.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Strategic Framework for New Product Development In Islamic Banks of Pakistan**

Group Number: EC- 16  
Group Members: Abdul Moiz Khan, Umer Waseem,  
Anus Baig and Mushahid Hussain  
Supervisor Name: Mrs. Marium Zehra  
Name of Industrial Supervisor: Mr. Abbas Raza Varyala

#### **Abstract**

The Islamic banking industry in Pakistan has experienced substantial growth over the past two decades; however, it faces challenges in developing a diverse range of truly innovative and Shariah-compliant financial products. A significant issue is the low awareness and understanding of Islamic banking advantages among younger generations, particularly Gen Z. This gap is exacerbated by a shortage of specialized technical expertise, outdated technological systems, and a lack of new, dually qualified professionals in both Islamic finance and modern banking.

This study proposes a strategic framework to assist the Islamic banking industry in developing new products that meet both evolving customer expectations and stringent Shariah requirements, specifically focusing on the Diminishing Musharakah product. A mixed-method approach was employed, involving both demand-side and supply-side research. On the demand side, variables such as awareness, social influence, perceived behavioral control, and fintech orientation were examined for their impact on adoption choices, utilizing the Decomposed Theory of Planned Behavior (DTPB). Supply-side insights were gathered from 428 consumers, predominantly intermediate-level students, and 15 Islamic bank employees.

Using Partial Least Squares Structural Equation Modeling (PLS-SEM), the results indicate a strong positive relationship between consumer awareness, technology support, and the intention to adopt Islamic financial products. The findings also highlight that many Islamic banks still heavily rely on conventional designs rather than genuine Shariah-compliant innovation. The proposed framework integrates the higher objectives of Shariah (Maqasid), innovation principles, and consumer alignment to foster product development. This research underscores the need for greater product diversification and enhanced awareness campaigns to bridge the gap between Islamic banking offerings and consumer demand, particularly among the tech-savvy Gen Z demographic.





# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

## **Role of State Bank of Pakistan in Promoting Green Banking in Pakistan**

Group Number: EC-17  
Group Member: Ameema Asghar, Farheen Shabbir,  
Fizzah Emaan Kazmi, Shanzay Rao  
Supervisor Name: Dr. Shabbir Ahmed  
Name of Industrial Supervisor: Kaleem Hyder- State Bank of Pakistan

### **Abstract**

This study investigates the pivotal role of the State Bank of Pakistan (SBP) in advancing green banking and sustainable finance within the nation's financial sector. It aims to (i) identify challenges faced by commercial banks in implementing the SBP's Green Banking Guidelines, (ii) assess the efficiency of SBP's accountability systems concerning environmentally harmful lending practices, and (iii) examine the contribution of SBP's green banking efforts towards achieving the United Nations Sustainable Development Goals (SDGs).

A robust mixed-method approach was employed. Quantitatively, the study developed a Central Green Banking Index (CGBI) to evaluate SBP's performance and a Green Banking Index (GBI) to measure the green banking performance of selected commercial banks from 2017 to 2024. Data for these indices were meticulously collected from SBP's official publications and banks' annual reports. Qualitative insights were gathered through comprehensive surveys and interviews with banking professionals, shedding light on the practical implementation of green banking and their perceptions of SBP's regulatory oversight.

The results indicate that while SBP has made commendable progress in policy formulation and raising awareness, the actual implementation across commercial banks remains inconsistent. A significant disparity in green performance was observed among banks, with some demonstrating strong adoption of sustainable practices while others significantly lagged. Key barriers identified include the absence of punitive penalties for non-compliance and limited technical expertise within the banking sector.

The study concludes that for SBP's green banking policies to be truly effective, stronger enforcement mechanisms, clearer reporting standards, and robust capacity-building support are essential. It recommends regular evaluations, fostering product innovation, and cultivating a stronger culture of environmental accountability throughout the banking sector to fully realize Pakistan's sustainable finance potential.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Analysis of Subjectivity on Sovereign Credit Rating through Machine Learning**

Group Number

EC-18

Group Members:

Maria Imran, Kashmala Sohail,  
Areeba Siddique, Humayoon Jahanzeb

Supervisor Name:

Dr. Farhan Ahmed Sheikh

Name of Industrial Supervisor (if any): Dr. Jahanzeb Alvi

### **Abstract**

Sovereign credit ratings are crucial indicators of a country's creditworthiness, influencing its access to global capital markets and borrowing costs. While assigned by major agencies like S&P, Moody's, and Fitch based on financial and non-financial performance, these ratings often suffer from subjectivity, disproportionately affecting developing nations. This study addresses this bias by analyzing factors contributing to subjectivity in sovereign credit ratings and leveraging machine learning (ML) algorithms to enhance transparency and objectivity.

The research aims to develop accurate credit default score prediction models by incorporating less subjective ML techniques. A comprehensive framework is utilized, with various financial/economic indicators from World Development Indicators and World Governance Indicators serving as independent variables, and the assigned credit rating as the dependent variable.

Results demonstrate a complex, non-linear relationship between the variables and credit ratings. Among ensemble methods, Light GBM, CatBoost, and Random Forest exhibited outstanding predictive performance. Light GBM notably excelled with a high  $R^2$  and the lowest RMSE and MSE, with CatBoost and Random Forest also performing well. In contrast, linear regression models failed to capture these complexities, yielding low Adjusted  $R^2$  values. This research significantly contributes to sovereign risk analysis by showcasing the superior capability of computational techniques in enhancing accuracy and reducing inherent biases in credit rating assignments.



# NED University of Engineering and Technology

## Department of Economics and Management Sciences



### Program: Bachelor in Economics and Finance

Project Title:

### **Fin-Tech Innovation For Climate Change Adaptation: A Pathway To Financial Stability**

Group Number: EC- 19  
Group Members: Huda Amir, Maryam Khan, Hadia Tahir and Wasiq Aziz  
Supervisor Name: Dr Manzoor Hussain Memon  
Co-Supervisor Name: Sir Talha Ahmed Siddiqui

#### **Abstract**

This study examines the active interplay between financial stability, climate change adaptation, and financial technology (FinTech) in developing countries. It specifically explores how FinTech innovation might bolster financial resilience and support climate adaptation plans in economies vulnerable to economic and environmental shocks. Using annual panel data from eight developing countries spanning 2010 to 2022, the research employs a fixed effects panel regression model. Key variables include financial stability (proxied by non-performing loans), FinTech adoption (measured by mobile and online banking transactions), and climate change (represented by CO<sub>2</sub> emissions), alongside controls such as GDP per capita, trade openness, and inflation. Data sources include the World Bank, IMF-IFS, and S&P Global.

Empirical findings reveal a statistically significant positive relationship between CO<sub>2</sub> emissions and financial stability, interpreted as a proxy for industrial and economic expansion. Conversely, trade openness negatively impacts financial stability, highlighting developing economies' exposure to external shocks. The independent effect of FinTech on financial stability is weak and statistically insignificant in most model specifications. However, when considering climate change as a moderating element, FinTech demonstrates a growing significance in improving financial system stability.

The study concludes that FinTech can contribute to inclusive and flexible financial systems, but its integration must occur within well-regulated and climate-conscious institutional frameworks. Policy implications include adaptive regulatory reforms, the advancement of green FinTech solutions, enhanced digital financial inclusion, and greater cross-border collaboration. These results significantly contribute to the ongoing conversation about digital transformation in emerging markets and the pursuit of sustainable financing.



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