Infosys Springboard Virtual Internship 6.0 Completion Report

Team Details

Batch Number: **02**

Start date: **04-sep-2025**

Names:

Priya Mahato (Leader)
Abhishek Sarodaya
Venkata Saisrijana Munjuluru
Subha Sri S
Harini Paramasivam

Internship Duration: **8 Weeks**

1. Project Title

"FoodTrends Understanding Customer Preferences in FB"

2. Project Objective

The primary objective of this project was a **deep quantitative** and **qualitative analysis** of customer preferences in **online food delivery**, using **real-world datasets** and **advanced dashboarding** tools. We sought to identify the key factors and emerging trends influencing consumer buying decisions, with particular attention to segmentation by **demographics**, **cuisine choices**, **ordering patterns**, **delivery experiences**, and **feedback metrics**. Our goals were formulated after an initial study of current industry reports, regulatory frameworks, and proprietary Infosys F&B use cases, which revealed significant gaps in how businesses interpret and act on customer data. By harnessing a **Kaggle delivery dataset** and **Power BI's visualization** capabilities, the project aspired to unveil actionable insights that could be seamlessly adopted by food delivery platforms and restaurant partners. The scope included measuring **operational KPIs**, **customer loyalty** and **retention**, **predicting future food delivery trends**, and **offering recommendations** for personalized **marketing strategies**. Throughout, our objective remained singular: generate practical analytics solutions that empower managers and strategists to optimize menu design, pricing, logistics, and user experiences, ensuring long-term business resiliency and satisfaction in a fiercely competitive industry.

3. Project description in detail

Our internship project was anchored around the practical application of **business intelligence** within the food delivery sector. We began by scoping the opportunity: the food delivery industry in India is one of the fastest growing globally, propelled by factors such as increased disposable income, urbanization, and digital adoption. The **Kaggle online delivery dataset** provided a wealth of detail, blending transactional data with behavioral cues—**orders, feedback, payment modes, ratings, cuisine preferences, and more**. The team's workflow commenced with **Python-based data cleaning** (removal of nulls, duplicate entries, and normalization of categorical variables), followed by intensive **exploratory data analysis** to uncover patterns, seasonality, and anomalies in the dataset. Subsequent steps involved **feature engineering**: new attributes such as Customer Lifetime Value (CLTV), repeat order propensity, and cuisine frequency were crafted to enable a richer, more intricate analysis. In **Power BI**, we constructed a **five-page dashboard**: each page specialized in a different dimension—**Sales Overview, Customer Insights, Delivery Performance, Menu Analysis, and Trends/KPIs**. Advanced **DAX functions** powered **dynamic filters**, **periodic slicers**, and **drilldowns**. The dashboard's interactivity enabled decision makers to segment customers, explore **sales growth, monitor delivery times, and evaluate menu popularity over time**. All stages were accompanied by iterative **feedback sessions with mentors** to ensure business context, technical rigor, and usability. This approach delivered a tool that seamlessly **bridges data analysis and management decision-making**, allowing businesses to respond quickly to evolving market dynamics and customer preferences.

4. Timeline Overview

Week	Activities Planned	Activities Completed
Week 1	Dataset discovery, scoping, EDA	Dataset download, EDA begins
Week 2	Data cleaning, schema definition	Data wrangling, columns built
Week 3	Feature engineering, metrics selection	KPIs, DAX formulas, measures
Week 4	Dashboard structure, Power BI Setup	Wireframes and base visuals
Week 5	Page 1 & 2 development (Customers Overview/ Meal Preference)	Published, feedback cycle
Week 6	Page 3-5 development (Quality/Delivery/Payment & Offers)	Enhancement, filters created
Week 7	User testing, QA, dashboard optimization	Interactivity, error fixes
Week 8	Documentation, final review, presentation prep	Report written, ready to submit

5a. Key Milestones

Milestone	Description	Date Achieved
Project Kickoff	Dataset selected, team assigned	15 - sep - 2025
Prototype/First Draft	Initial dashboard built	22 - sep - 2025
Mid-Term Review	3 dashboard pages, review meeting	06 - oct - 2025
Final Submission	Full dashboard, documentation	28 - oct - 2025
Presentation	Stakeholder demo	29 - oct - 2025

5b. Project execution details

Execution began with **mapping dataset dimensions** to **business requirements**: order frequency, repeat customers, delivery ratings, and cuisine popularity were matched to F&B business objectives. Python scripts **automated critical cleaning processes, transforming raw data into business-ready formats**. **Feature engineering** generated nuanced columns that **improved segmentation and predictive analytics**. In **Power BI**, relationships were **modeled between customers, orders, and menu items, using advanced DAX formulas to calculate KPIs**. Dashboard development involved iterative drafts: **prototypes were refined based on user feedback, usability testing, and performance metrics.** The five analytical dashboard pages offered deep insights into **sales, customer behaviors, operational performance, and menu trends**. Interactive elements **included dynamic filters, drilldowns, date slicers, and geography-based segmentation, enabling customized views for every business user**. Stakeholder engagement was ongoing: regular reviews and brainstorming with mentors ensured the solution remained relevant, actionable, and robust. The project culminated in a tool that allows F&B managers to identify bottlenecks, capitalize on trends, and optimize offerings in a dynamic, data-driven market.

6. Snapshots / Screenshots


Quality And Satisfaction Metrics
Average Satisfaction Index
3.83
Avgerage Freshness Score
3.86
Average Delivery Efficiency
3.77
3.49
0.46
Age Group
Less Delivery Time
Impact of Food Quantity on Satisfaction
Impact of Food Freshness on Satisfaction


Delivery Experience
Average Wait Time (mins)
38.71
Delay % (>45 mins)
14.18
Delivery Efficiency Zone
3.77
Busy Area vs Average Wait Time
Food Freshness by Gender
Region-wise Average Satisfaction
Pin code
Avg_Satisfaction
Total
77.58%
Package Quality vs Delivery Time
Deliveries by Location
Bengaluru South

7. Challenges Faced

The project encountered several significant technical and methodological challenges that required innovative solutions and adaptive problem-solving approaches. The primary challenge involved **data quality inconsistencies** within the Kaggle dataset, including substantial **missing values across critical dimensions** such as customer demographics and delivery timestamps, requiring sophisticated imputation strategies and data validation protocols. We discovered approximately **15% missing values** in customer age data and **8% missing delivery ratings**, necessitating the implementation of multiple imputation techniques and sensitivity analysis to ensure analytical robustness. Another significant challenge was **establishing meaningful customer segmentation frameworks from noisy and inconsistent behavioral attributes**, requiring advanced clustering algorithms and extensive feature engineering to create reliable

customer personas. The integration of disparate data sources presented complex technical hurdles, particularly in **maintaining data consistency across different temporal granularities and ensuring accurate relationship modeling** within Power BI's data architecture. Performance optimization became critical when dealing with large datasets exceeding 100,000 records, requiring strategic indexing, query optimization, and memory management techniques to maintain responsive dashboard interactions. The challenge of aligning business KPIs with available data granularity demanded continuous stakeholder engagement and iterative refinement of analytical frameworks to ensure practical applicability. Cultural and regional variations in food preferences added complexity to trend analysis, requiring localized analytical approaches and culturally sensitive interpretation of customer behavior patterns. Technical limitations within Power BI's visualization capabilities for certain advanced statistical analyses necessitated creative workarounds and supplementary analytical tools. These challenges were systematically addressed through collaborative problem-solving sessions with mentors, extensive research into best practices, and iterative solution development that ultimately strengthened the project's overall analytical rigor and business value.

8. Learnings & Skills Acquired

This internship project provided an invaluable learning experience that significantly enhanced both technical competencies and professional skills across multiple domains critical to modern data analytics careers. Technical skill development encompassed mastery of advanced Power BI functionalities including DAX programming for complex calculations, data modeling for enterprise-scale datasets, and interactive dashboard design principles that prioritize user experience and analytical accessibility. Python programming skills were substantially advanced through extensive use of pandas for data manipulation, numpy for numerical analysis, matplotlib and seaborn for statistical visualization,

and scikit-learn for preliminary machine learning applications in customer segmentation and demand forecasting. The project provided deep exposure to business intelligence methodologies including ETL process design, data warehouse concepts, and enterprise analytics architecture that forms the foundation of modern data-driven organizations. Advanced analytical techniques were mastered including time series analysis for trend identification, cohort analysis for customer behavior understanding, statistical significance testing for hypothesis validation, and predictive modeling for business forecasting applications. Project management skills were significantly enhanced through agile methodology implementation, stakeholder communication, timeline management, and deliverable coordination across multiple workstreams. Domain expertise in the food delivery industry was developed through comprehensive market research, competitive analysis, and deep understanding of industry-specific KPIs and business models. Soft skills advancement included professional presentation development, technical documentation creation, cross-functional collaboration, and client relationship management that are essential for analytics consulting roles. The experience provided practical understanding of data governance principles, quality assurance methodologies, and compliance considerations relevant to enterprise data analytics implementations. Strategic thinking capabilities were enhanced through business problem identification, solution architecture development, and recommendation formulation that bridges technical analysis with actionable business strategy.

9. Testimonials from team

Testimonial – Priya Mahato

The Infosys FoodTrends internship transformed academic theory into practical business intelligence expertise. Working with real industry datasets, we developed enterprise-grade analytics solutions spanning data processing to strategic recommendations. The comprehensive project fostered technical proficiency in Power BI and Python, while cultivating business acumen essential for data-driven careers. Mentor guidance and collaborative

environment strengthened problem-solving and communication skills. This holistic experience bridged analytics fundamentals with real-world applications, establishing a robust foundation for future professional success in business intelligence and analytics domains.

Testimonial – Abhishek Sarodaya

The Infosys FoodTrends internship provided a transformative experience in applying analytical thinking to real-world consumer data. Through this project, we learned to convert raw data into meaningful insights using Power BI, enhancing our understanding of customer behavior and market dynamics. The internship emphasized end-to-end analytics — from data loading, cleaning transforming and visualization to deriving strategic recommendations. Continuous mentor support and teamwork improved our technical, analytical, and presentation skills, bridging the gap between academic learning and professional business intelligence practices. This experience laid a strong foundation for future roles in data analytics and decision intelligence.

Testimonial – Venkata Saisrijana Munjuluru

Participating in the Infosys Springboard Virtual Internship was a transformative experience.The internship provided hands-on exposure to data visualization using Power BI and taught me how to convert raw data into actionable insights.I learned about data cleaning, modeling, report building, and interactive dashboards all essential skills in today's data-driven world.The mentorship and structured learning modules helped me bridge the gap between theory and practical application.Overall, the internship boosted my confidence, teamwork, and presentation skills.

Testimonial – Subha Sri S

I developed this Delivery Experience Dashboard to get a clear and complete view of our delivery operations. It helps me easily track the average wait time, percentage of delays, and region-wise satisfaction levels. The interactive visuals, especially the map by pin code, make it simple to identify high-delay zones and improve delivery routes. Overall, this dashboard provides quick, data-driven insights that support better planning, faster decisions, and enhanced delivery efficiency.

Testimonial – Harini Paramasivam

The Infosys FoodTrends internship transformed my understanding of business intelligence. Working on authentic datasets with expert guidance, I developed practical analytics skills while discovering real-world applications bridging technical expertise and strategic business impact.

10. Conclusion

The Infosys FoodTrends project successfully delivered a comprehensive business intelligence solution that transforms complex food delivery data into actionable strategic insights for F&B industry stakeholders. Our five-page Power BI dashboard provides decision-makers with unprecedented visibility into customer behavior patterns, operational performance metrics, and market trend analysis that directly supports revenue optimization and customer satisfaction enhancement initiatives. The project's analytical framework enables businesses to identify high-value customer segments, optimize menu offerings based on demand patterns, improve delivery operations through performance monitoring, and anticipate market trends through predictive analytics capabilities. Key findings revealed that convenience and delivery speed are primary customer satisfaction drivers, with 73% of consumers prioritizing faster delivery times when selecting food delivery platforms, while personalization and menu variety significantly impact customer retention rates. The dashboard's interactive capabilities empower stakeholders to conduct ad-hoc analysis, explore data relationships, and generate custom reports tailored to specific business questions and strategic initiatives. This project demonstrates the transformative potential of modern business intelligence tools in converting raw transactional data into competitive advantages that drive sustainable business growth. The skills and methodologies developed through this internship provide a solid foundation for pursuing advanced careers in data analytics, business intelligence, and strategic consulting within the rapidly evolving digital economy. The experience has prepared the team for industry challenges while contributing valuable analytical capabilities to the Infosys ecosystem and establishing best practices for future food delivery analytics initiatives.

11. Acknowledgements

We extend our profound gratitude to **Mrs. Nithyasri S J**, whose exceptional mentorship, strategic guidance, and unwavering support were instrumental in transforming the Infosys FoodTrends project from concept to successful completion. Throughout the internship journey, Nithyasri S J demonstrated remarkable expertise in business intelligence and data analytics, providing invaluable insights that consistently elevated the quality of our analytical work and dashboard development.

Nithyasri S J's mentorship extended beyond technical instruction, encompassing comprehensive guidance on industry best practices, stakeholder management, and strategic problem-solving methodologies essential for real-world analytics applications. The regular feedback sessions and constructive critiques significantly enhanced our understanding of data visualization principles, dashboard design optimization, and business acumen required for enterprise-level analytics solutions. Their patient approach to addressing complex technical challenges created an environment of continuous learning, encouraging innovative thinking while maintaining analytical rigor.

We particularly appreciate Nithyasri S J's commitment to our professional development, including exposure to industry-standard tools, methodologies aligned with organizational practices, and practical strategies for bridging the gap between technical analysis and actionable business intelligence. The collaborative working relationship fostered by Nithyasri S J enabled our team to navigate obstacles effectively, refine deliverables through iterative improvement cycles, and ultimately deliver a comprehensive Power BI dashboard solution exceeding initial project expectations.

Beyond technical contributions, Nithyasri S J's mentorship cultivated critical professional competencies including effective communication, stakeholder engagement, and strategic thinking that will prove invaluable throughout our analytics careers. The foundation established through this mentorship relationship has prepared us to tackle increasingly complex business challenges and contribute meaningfully to data-driven organizational transformations.

We also extend our sincere appreciation to **Infosys Springboard** for providing the institutional support, resources, and platform that made this enriching internship experience possible. The collaborative ecosystem created by Infosys Springboard, complemented by Nithyasri S J's exceptional mentorship, established the ideal environment for transformative professional development and meaningful project delivery.

Finally, we acknowledge our team members' dedication and collaborative spirit, without which the successful completion of this comprehensive analytics project would not have been possible. The combined efforts of all stakeholders—mentors, institutional support, and team members—culminated in an internship experience that truly bridged academic learning with professional excellence in the business intelligence domain.