FREELANCE PORTFOLIO
2026

MOHAMED AYMAN

Rigorous statistics. Clear answers. Results you can defend.

Statistician and data scientist for master's and PhD researchers, research agencies and growing businesses. Thesis and research statistics, survey analytics, econometrics and business dashboards, in Arabic and English.

120+	4.9★	2019	AR · EN
freelance projects delivered	average client rating	freelancing since	reports in Arabic and English

Thesis statistics · Survey analytics · Econometrics · Power BI · AI products

Every sample in this portfolio is anonymized and watermarked to protect my clients.

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From a questionnaire and a deadline to results you understand and can defend.

I'm Mohamed Ayman, a data scientist and statistician. Since 2019 I have helped researchers, agencies and companies turn raw data into findings they trust, across more than 120 freelance projects.

Most researchers reach me at the same point. They have collected their data, the deadline is close, and they are not sure which test is right, whether the assumptions hold, or how to report it the way their supervisor expects. Businesses arrive with a different version of the same problem: plenty of data and no clear picture.

My job is to bring the method and the clarity. I check the data and assumptions first, choose analyses that fit the design, and report every result honestly, including the ones that are not significant. Then I explain the results in plain language, so you can use them with confidence in front of a committee, a client or a board.

I work in SPSS, AMOS, R, Stata, Python, NVivo and Power BI, and I write in both Arabic and English. Many clients start with one analysis and come back for the next project; one researcher has worked with me on eleven.

IN THIS PORTFOLIO

02 Services 3
03 Thesis statistics package 4
04 Methods & tools 5
05 Research case studies 6
06 Business & BI case studies 10
07 How I work 12
08 Contact & sample library 13

CLIENTS IN

Saudi Arabia · Oman · UAE · Egypt · Malaysia · United States

LANGUAGES

Arabic · English

Arabic questionnaires analysed and reported in English, and the reverse.

CORE TOOLS

SPSS · AMOS · R · Stata · Python · NVivo · Excel · Power BI · SQL

Rigour

Assumptions checked, methods matched to the design, results reported as they are.

Clarity

APA 7 tables and figures with a plain-language reading of every result.

Ownership

You get the syntax, output and data, plus a walkthrough so you can explain every number.

Master's & PhD researchers

Analysis plans, results chapters, committee revisions.

Research & consulting agencies

Recurring survey processing, crosstabs, dashboards.

Companies & organisations

Financial reporting, KPI dashboards, AI-enabled products.

Six ways I can help, one standard of rigour.

Pick the service that fits your project. Each one ends with a deliverable you can use straight away and explain with confidence.

01 · MOST REQUESTED

Thesis & dissertation statistics

End-to-end statistical support for master's and PhD research. I review the analysis plan, clean and screen the data, check reliability and validity, test every hypothesis, and report the results in APA 7 with plain-language interpretation. Quantitative, qualitative and mixed methods, in Arabic or English.

Typical deliverables
Analysis plan · cleaned data and codebook · SPSS/AMOS/R syntax and output · APA 7 tables and figures · results report with interpretation per hypothesis · walkthrough session · revisions for supervisor comments

Common methods
Reliability · EFA/CFA · t-tests, ANOVA, MANOVA · regression · mediation and moderation · SEM · mixed models · thematic analysis

02

Survey & market-research analytics

From raw panel exports to labelled datasets, banner crosstabs and dashboards. Automated pipelines keep coding identical from one wave to the next.

Deliverables: recoded data · SPSS/Python automation · Excel crosstab books · Power BI dashboard

03

Econometrics & advanced modelling

Panel data, fixed effects, local projections and impulse responses, mixed-effects and structural models. Reproducible code throughout.

Deliverables: documented Stata/R code · estimates tables · publication-quality figures

04

Business intelligence & financial reporting

KPI design, budget-vs-actual reporting and Power BI dashboards that executives actually use, in Arabic or English.

Deliverables: data-quality audit · semantic model · dashboard · executive deck · BI roadmap

05

AI & data products

Full-stack MVPs with data and AI built in: APIs, web front ends, scraping and data-quality pipelines, and generative-AI integration.

Deliverables: working MVP · data pipelines · documentation · handover

06

Research editing & formatting

APA 7 and journal formatting, university thesis templates, table and figure production, reference management, and structured revision against supervisor or reviewer comments, with a change log for each round.

THE THESIS STATISTICS PACKAGE

Everything your results chapter needs, nothing you can't explain.

> You stay the author. I make sure the numbers are right, and that you can defend them.

- Review of your analysis plan (Chapter 3) and test selection
- Data cleaning, coding and screening: missing data, outliers
- Exploratory and confirmatory factor analysis
- Hypothesis tests, regression, SEM or mixed models
- Results report with interpretation per hypothesis
- Walkthrough session: understand every result
- Sample-size and power justification
- Reliability and validity: Cronbach's α, CR, AVE
- Assumption testing for every model
- APA 7 tables and figures, ready to place
- Syntax, output and the cleaned data file
- Revisions on the analysis for supervisor comments

01
Brief & data review
Objectives, hypotheses, instrument and data checked

02
Plan & fixed quote
Written analysis plan, scope and timeline agreed

03
Clean & screen
Coding, missing data, outliers, assumptions

04
Analyse & model
Reliability, validity, tests and models

05
Report & hand over
APA 7 report, syntax, output, data

06
Walkthrough & revise
Explain results; supervisor-comment revisions

WHAT I NEED FROM YOU

1. Research title, objectives and hypotheses
2. Questionnaire or instrument
3. Data file: Excel, SPSS, CSV or Google Forms
4. University guidelines and deadline
5. Supervisor comments, if any

WHAT YOU GET BACK

A results chapter you can read, understand and present. Every table follows APA 7, every test has a stated reason, and every finding is explained in plain language against the hypothesis it answers. Arabic or English, formatted to your university's template.

See samples T01–T05 →

The right method for the design, in the software your committee knows.

Foundations Every project	Data cleaning & recoding · Missing data & outliers · Descriptive statistics · Normality & assumption checks · Sample-size justification	SPSS · R · Python · Excel
Group comparisons Differences between groups	t-tests · One-way & factorial ANOVA · MANOVA · Chi-square · Mann–Whitney · Kruskal–Wallis · Post-hoc & Bonferroni	SPSS · R
Relationships & prediction What drives what	Correlation · Multiple & hierarchical regression · Logistic regression & ROC · Discriminant analysis	SPSS · R · Python
Measurement Are the scales sound?	Cronbach's α · Item–total analysis · EFA & parallel analysis · CFA & fit indices · CR · AVE	SPSS · AMOS · R (lavaan)
Structural & causal Theory-driven models	SEM · Path analysis · Mediation (Sobel, bootstrap) · Moderation & interactions	AMOS · R (lavaan) · SPSS
Advanced models Nested, panel and time data	Linear mixed-effects models · Panel fixed effects · Local projections & IRFs · Clustering (k-means) · Forecasting	R (lme4, emmeans) · Stata · Python
Qualitative & mixed Words as data	Interview coding frameworks · Thematic analysis · Attribute & group comparison · Mixed-methods integration	NVivo · Excel
Reporting & BI How results are seen	APA 7 · Journal & university templates · Publication-quality figures · Interactive dashboards · Executive decks	Word · ggplot2 · Power BI · DAX

DISCIPLINES SERVED

Education · Psychology · Media & communication · Library & information science · Health sciences · Linguistics · Economics & econometrics · Islamic finance · Political science · Business & marketing · Public policy

SELECTED WORK · RESEARCH STATISTICS

Case studies

A selection of my strongest research projects. Client details are removed; the full anonymized sample for each is listed on page 13.

MEDIA & COMMUNICATION · UNIVERSITY RESEARCH THESIS · ENGLISH

News avoidance & selective exposure: a complete analysis chapter

THE BRIEF

A researcher studying why university students avoid the news had a multi-construct questionnaire and about 400 responses. Every hypothesis had to be tested, and the measurement model had to stand up to committee scrutiny.

WHAT I DID

Screened the data and checked reliability, then ran correlation and regression models and tested mediation (Sobel) and moderation. I fitted an SEM path model and a k-means segmentation, validated the constructs with EFA (parallel analysis) and CFA in lavaan, and wrote the full results chapter with an APA 7 hypothesis summary.

OUTCOME

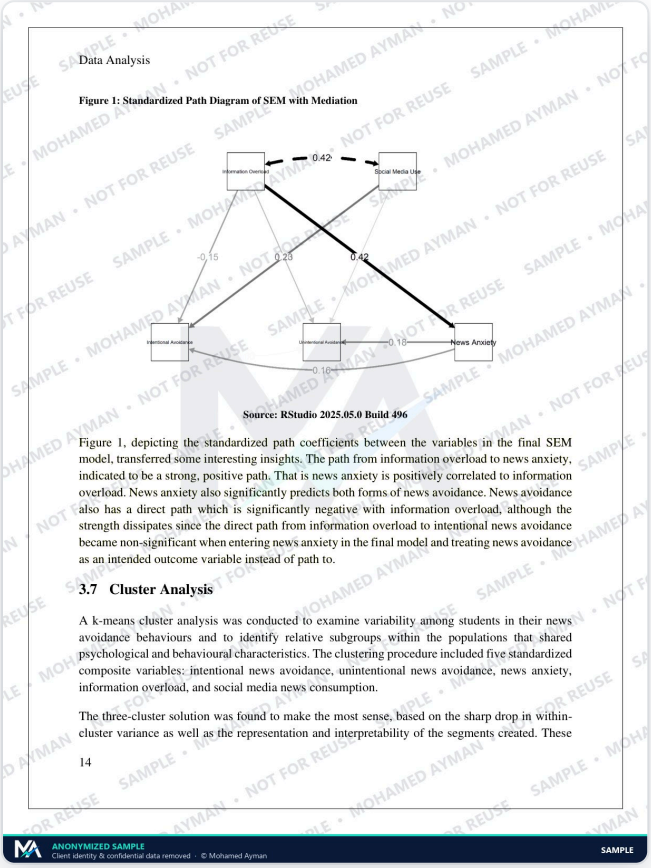
4-factor
structure confirmed, 68.6% variance explained

3
interpretable audience segments

32 pp
results chapter with APA 7 tables

SPSS + R
syntax and output handed over

Cronbach's α · Regression · Mediation · Moderation · SEM · EFA · CFA (lavaan) · k-means



Data Analysis

Figure 1: Standardized Path Diagram of SEM with Mediation

Source: RStudio 2025.05.0 Build 496

Figure 1, depicting the standardized path coefficients between the variables in the final SEM model, transferred some interesting insights. The path from information overload to news anxiety, indicated to be a strong, positive path. That is news anxiety is positively correlated to information overload. News anxiety also significantly predicts both forms of news avoidance. News avoidance also has a direct path which is significantly negative with information overload, although the strength dissipates since the direct path from information overload to intentional news avoidance became non-significant when entering news anxiety in the final model and treating news avoidance as an intended outcome variable instead of path to.

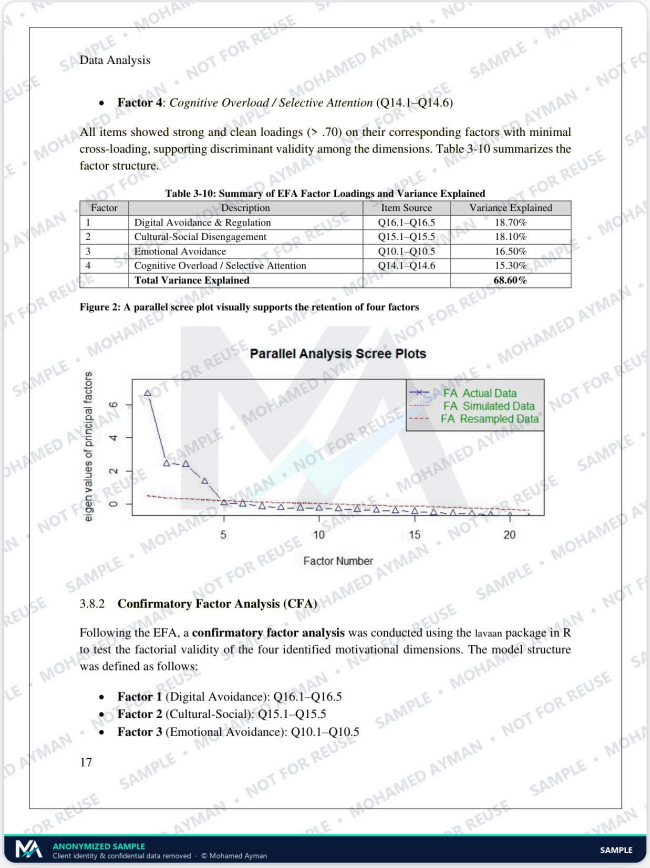
3.7 Cluster Analysis

A k-means cluster analysis was conducted to examine variability among students in their news avoidance behaviours and to identify relative subgroups within the populations that shared psychological and behavioural characteristics. The clustering procedure included five standardized composite variables: intentional news avoidance, unintentional news avoidance, news anxiety, information overload, and social media news consumption.

The three-cluster solution was found to make the most sense, based on the sharp drop in within-cluster variance as well as the representation and interpretability of the segments created. These

14

ANONYMIZED SAMPLE
Client identity & confidential data removed · © Mohamed Ayman
SAMPLE



Data Analysis

- **Factor 4**: *Cognitive Overload / Selective Attention* (Q14.1–Q14.6)

All items showed strong and clean loadings (> .70) on their corresponding factors with minimal cross-loading, supporting discriminant validity among the dimensions. Table 3-10 summarizes the factor structure.

Table 3-10: Summary of EFA Factor Loadings and Variance Explained

Factor	Description	Item Source	Variance Explained
1	Digital Avoidance & Regulation	Q16.1–Q16.5	18.70%
2	Cultural-Social Disengagement	Q15.1–Q15.5	18.10%
3	Emotional Avoidance	Q10.1–Q10.5	16.50%
4	Cognitive Overload / Selective Attention	Q14.1–Q14.6	15.30%
	Total Variance Explained		**68.60%**

Figure 2: A parallel scree plot visually supports the retention of four factors

3.8.2 **Confirmatory Factor Analysis (CFA)**

Following the EFA, a **confirmatory factor analysis** was conducted using the lavaan package in R to test the factorial validity of the four identified motivational dimensions. The model structure was defined as follows:

- **Factor 1** (Digital Avoidance): Q16.1–Q16.5
- **Factor 2** (Cultural-Social): Q15.1–Q15.5
- **Factor 3** (Emotional Avoidance): Q10.1–Q10.5

17

ANONYMIZED SAMPLE
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SAMPLE

Left: SEM path diagram with mediation. Right: EFA with parallel-analysis scree plot.

FULL SAMPLE · T01

PSYCHOLOGY · MASTER'S THESIS · ARABIC

Intellectual humility, mindfulness & hardiness: validating three scales in AMOS

THE BRIEF

A master's study of young private-sector employees. Three Arabic instruments had to be validated before any hypothesis could be tested.

WHAT I DID

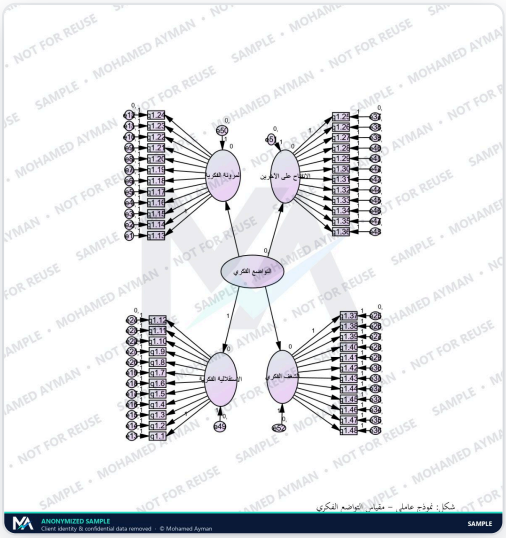
Applied the inclusion criteria to reach a final sample above 500. I validated all three scales with CFA in AMOS and reported item–total correlations and reliability, then tested correlations, gender differences (t-tests) and prediction (multiple regression). The results are written in formal Arabic academic style.

3 scales
validated by CFA

N > 500
after screening

50 pp
Arabic report

AMOS · CFA · Reliability · t-tests · Regression



CFA path diagram

T02

LINGUISTICS · DOCTORAL PROPOSAL · ENGLISH

Gender & emphatic consonants: mixed-effects models in R

THE BRIEF

A sociophonetic study of an Arabic dialect: do men and women produce emphatic consonants differently? The data were acoustic measurements (formants F1–F3, duration, VOT) from 34 speakers, with repeated tokens per speaker and word.

WHAT I DID

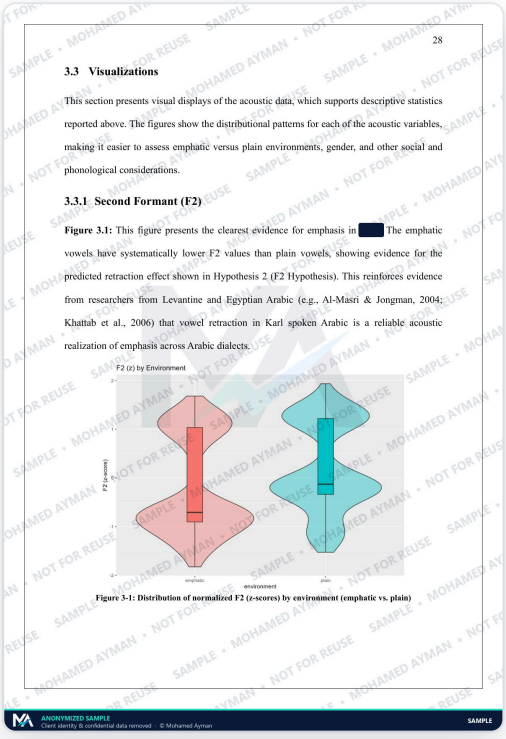
Normalised formants per speaker (Lobanov) and built linear mixed-effects models with speaker and word random effects. I ran Bonferroni-adjusted comparisons of estimated marginal means, checked diagnostics, and produced publication-ready ggplot2 figures.

34
speakers modelled

LMM
lme4 · lmerTest · emmeans

59 pp
proposal with results

R · Mixed models · EMMs · ggplot2



Violin + box plot (ggplot2)

T03

MEDIA & COMMUNICATION · PHD DISSERTATION · QUALITATIVE

How people use and read emojis: a qualitative analysis chapter

THE BRIEF

A PhD candidate had 15 bilingual interviews on emoji use and interpretation and needed a rigorous, well-evidenced qualitative chapter.

WHAT I DID

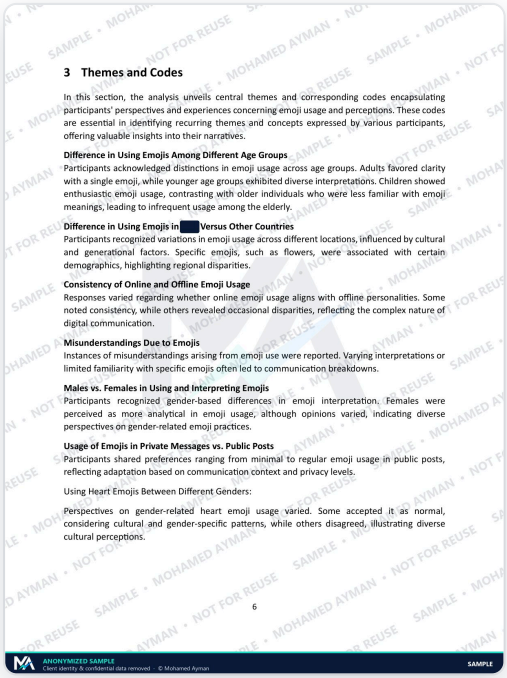
Organised the transcripts and translations and built the coding framework in NVivo. I derived the themes and codes, then compared perspectives across gender, generation and culture, with frequency tables and charts as evidence. The finished chapter runs to more than 50 pages.

15
interviews coded

8+
themes with evidence

58 pp
analysis chapter

NVivo · Thematic analysis · Group comparison



3 Themes and Codes

In this section, the analysis unveils central themes and corresponding codes encapsulating participants' perspectives and experiences concerning emoji usage and perceptions. These codes are essential in identifying recurring themes and concepts expressed by various participants, offering valuable insights into their narratives.

Difference in Using Emojis Among Different Age Groups
Participants acknowledged distinctions in emoji usage across age groups. Adults favored clarity with a single emoji, while younger age groups exhibited diverse interpretations. Children showed enthusiastic emoji usage, contrasting with older individuals who were less familiar with emoji meanings, leading to infrequent usage among the elderly.

Difference in Using Emojis in [redacted] Versus Other Countries
Participants recognized variations in emoji usage across different locations, influenced by cultural and generational factors. Specific emojis, such as flowers, were associated with certain demographics, highlighting regional disparities.

Consistency of Online and Offline Emoji Usage
Responses varied regarding whether online emoji usage aligns with offline personalities. Some noted consistency, while others revealed occasional disparities, reflecting the complex nature of digital communication.

Misunderstandings Due to Emojis
Instances of misunderstandings arising from emoji use were reported. Varying interpretations or limited familiarity with specific emojis often led to communication breakdowns.

Males vs. Females in Using and Interpreting Emojis
Participants recognized gender-based differences in emoji interpretation. Females were perceived as more analytical in emoji usage, although opinions varied, indicating diverse perspectives on gender-related emoji practices.

Usage of Emojis in Private Messages vs. Public Posts
Participants shared preferences ranging from minimal to regular emoji usage in public posts, reflecting adaptation based on communication context and privacy levels.

Using Heart Emojis Between Different Genders:

Perspectives on gender-related heart emoji usage varied. Some accepted it as normal, considering cultural and gender-specific patterns, while others disagreed, illustrating diverse cultural perceptions.

6

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SAMPLE

Themes & codes

T04

DEVELOPMENT ECONOMICS · GRADUATE PROJECT · ENGLISH

What drives regional development? A sequential multivariate strategy

THE BRIEF

Nine economic and social indicators across 100 districts. The question: do regions differ, and which factors actually predict income?

WHAT I DID

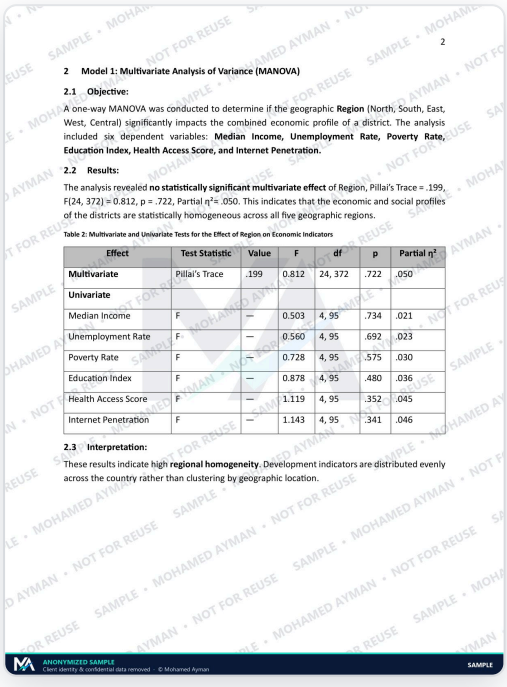
Tested assumptions (Shapiro–Wilk, VIF), then ran a one-way MANOVA, a discriminant analysis, a multiple regression and a mediation path model. Non-significant results are reported clearly and explained, not hidden.

4
models in sequence

100
districts

6 pp
concise report

MANOVA · Discriminant · Regression · Path analysis



2

2 Model 1: Multivariate Analysis of Variance (MANOVA)

2.1 Objective:

A one-way MANOVA was conducted to determine if the geographic **Region** (North, South, East, West, Central) significantly impacts the combined economic profile of a district. The analysis included six dependent variables: **Median Income, Unemployment Rate, Poverty Rate, Education Index, Health Access Score, and Internet Penetration.**

2.2 Results:

The analysis revealed **no statistically significant multivariate effect** of Region, Pillai's Trace = .199, $F(24, 372) = 0.812$, $p = .722$, Partial $\eta^2 = .050$. This indicates that the economic and social profiles of the districts are statistically homogeneous across all five geographic regions.

Table 2: Multivariate and Univariate Tests for the Effect of Region on Economic Indicators

Effect	Test Statistic	Value	F	df	p	Partial η²
Multivariate	Pillai's Trace	.199	0.812	24, 372	.722	.050
Univariate						
Median Income	F	—	0.503	4, 95	.734	.021
Unemployment Rate	F	—	0.560	4, 95	.692	.023
Poverty Rate	F	—	0.728	4, 95	.575	.030
Education Index	F	—	0.878	4, 95	.480	.036
Health Access Score	F	—	1.119	4, 95	.352	.045
Internet Penetration	F	—	1.143	4, 95	.341	.046

2.3 Interpretation:

These results indicate high **regional homogeneity**. Development indicators are distributed evenly across the country rather than clustering by geographic location.

ANONYMIZED SAMPLE
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SAMPLE

MANOVA results

T05

MACROECONOMICS · ECONOMETRICS · STATA

Oil news shocks: smoothed panel local projections

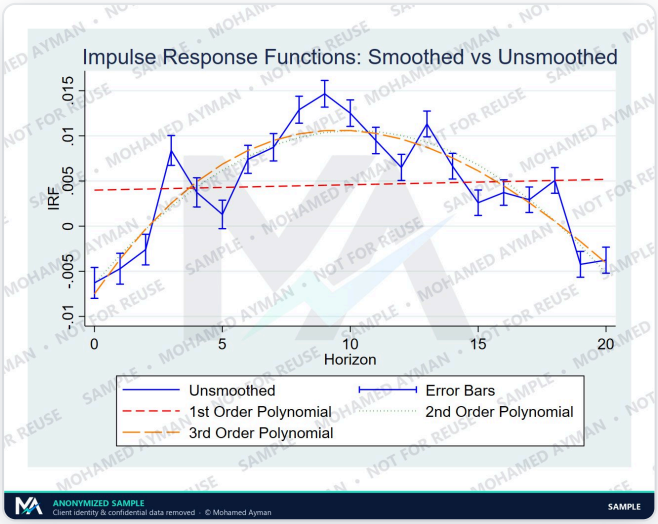
THE BRIEF

Extend a published local-projections design on a public panel of 180 countries over 53 years: how does the current account respond to oil-discovery news?

WHAT I DID

Wrote one parameterised Stata do-file that runs 21 fixed-effects regressions (h = 0–20), builds the impulse responses, smooths them with 1st- to 3rd-order polynomials and error bands, and draws a publication-quality figure.

Panel FE · Local projections · IRFs · Stata



Smoothed vs unsmoothed IRFs

E01

11

PROJECTS · ONE CLIENT

The clearest proof is a client who keeps coming back

One researcher has trusted me with eleven projects over two years. They cover e-learning, AI tools in higher education, blended learning, social engineering and public security, the knowledge economy and library services, plus journal-paper revisions, in Arabic and English.

MORE RESEARCH ENGAGEMENTS

Health sciences survey

Facilitators and barriers to outcome measures among physiotherapists: reliability, group comparisons.

Education · Arabic

Teachers' knowledge of the response-to-intervention model: hypothesis testing by demographic factors.

Library & information science · Arabic

Knowledge-management practice in central university libraries.

Public perception survey

Residents' attitudes to a national giga-project. Arabic questionnaire, English report.

Banking · predictive modelling

Logistic regression with ROC/AUC on a 45,000-record marketing dataset, plus hierarchical regression.

Media & climate change

Reliance on social media for climate information: survey hypotheses and group differences.

International relations

Coding critical events in Gulf foreign relations and visualising the trajectories.

Environmental economics · R

Product-level analysis with an environmentally extended input–output model.

SELECTED WORK · BUSINESS, BI & AI

Data that drives decisions

MARKET RESEARCH · RECURRING ENGAGEMENT · 2024–2026

8 survey waves for an international research agency

THE BRIEF

An agency runs annual executive surveys for global professional-services firms. Each wave arrives as a raw panel export with hundreds of text-coded columns.

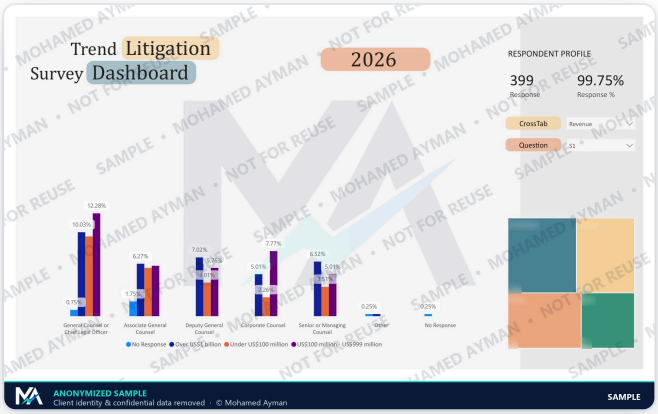
WHAT I DID

Built a Python-to-SPSS pipeline with consistent coding, auto-generated value labels and multiple-response sets. It produces banner crosstabs by role, revenue, industry and region as Excel books, plus a Power BI dashboard where any question can be cut by any banner.

8
waves delivered

~400
executives per wave

Auto
labels & crosstabs



Survey dashboard (Power BI) **B01**

CORPORATE FINANCE · INVESTMENT GROUP · ARABIC

Budget vs actual: monthly executive reporting

THE BRIEF

A multi-brand investment group tracked spending in manual, error-prone spreadsheets and needed a reliable monthly view against budget.

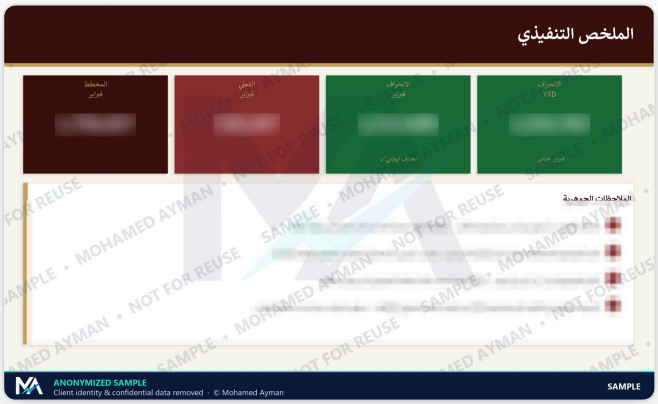
WHAT I DID

Audited the expense data and built the analysis workbook and dashboard. I classified each variance as real or timing, and delivered a monthly Arabic executive deck with brand deep-dives and recommendations, plus a phased BI roadmap.

5
brands, month + YTD

Real vs timing
variance logic

BI
roadmap proposed



Executive summary (figures blurred) **B02**

PUBLIC HEALTH · INTERNATIONAL ORGANISATION · POWER BI

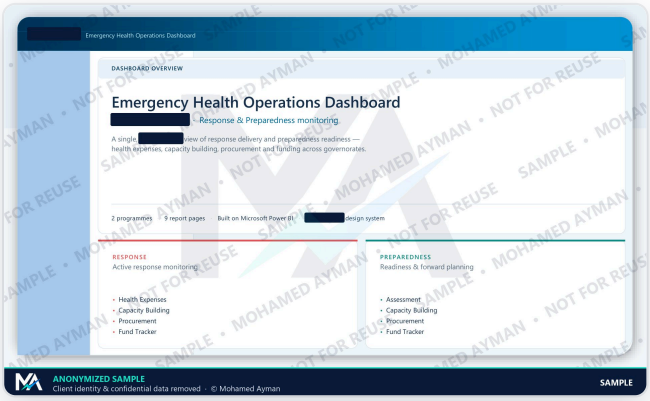
Emergency health operations dashboard

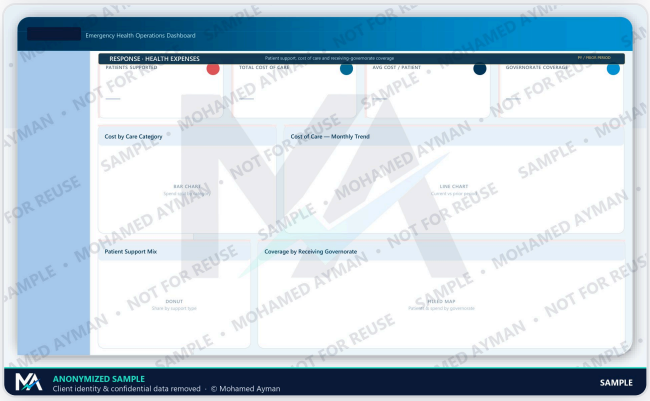
A country office needed one view of its emergency response and preparedness work. I designed the information architecture (2 programmes, 9 pages), KPI cards and the visual grammar for each page, a colour and usage system aligned with the client's brand, and the semantic model behind it. The design went through several client review rounds.

9
report pages

12+
model tables

2
programmes





Overview & page wireframe

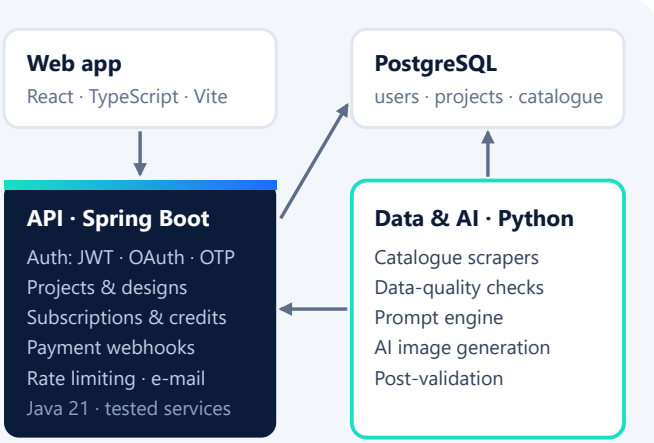
B03

AI PRODUCT · GULF TECHNOLOGY COMPANY · FULL STACK

AI interior-design & furnishing platform (MVP)

Led delivery of a full-stack MVP. The Spring Boot (Java 21) API handles JWT and OAuth sign-in, OTP by SMS, projects, subscriptions and credits, payment webhooks and rate limiting. The web app is React and TypeScript. A Python data-and-AI workspace runs vendor-catalogue scrapers, data-quality checks, a prompt engine, AI image generation and post-validation. Additional client requests were delivered beyond the original scope.

The code is confidential, so the architecture is shown instead.



Architecture overview · client name and code withheld

75
CHARTS & TABLES

AI training data for language models

Wrote expert question–answer pairs grounded in charts and tables from public economic research papers, used to train and evaluate AI models on quantitative reasoning.

Confidential by default.
Honest by principle.

CONFIDENTIALITY

Your data and identity stay private

- I never name clients, institutions or companies in my portfolio or anywhere else.
- Your data is used only for your project. It is never reused, and I delete it on request.
- I'm happy to sign your NDA before we start.
- Every sample here is anonymized: names, institutions, places and brands replaced, confidential figures blurred, and pages watermarked and flattened.

ACADEMIC INTEGRITY

You stay the author

- I provide statistical consulting, analysis and training.
- I write up the analysis I run, with methods, tables and interpretation, so you can understand it, adapt it and defend it. Your thesis, its arguments and its decisions remain yours.
- I report results as they are, including non-significant ones, and never adjust data to reach a preferred outcome.
- Please check your university's policy on external statistical support.

أقدّم الاستشارات والتحليل الإحصائي والتدريب، وتبقى ملكية البحث وقراراته للباحث، وجميع البيانات سرية تمامًا.

Fixed quote

After reviewing your data and requirements. Scope is set by the number of hypotheses and models, the sample and the report language.

Revisions included

Changes to the agreed analysis for supervisor or committee comments are included. New hypotheses, models or data are quoted separately.

Clear milestones

Larger projects are delivered in agreed stages, with a walkthrough call at handover.

FREQUENTLY ASKED

Is this kind of support allowed?

Most universities allow statistical consultation. Many encourage it. I'll explain every step so the decisions remain yours. Check your programme's policy if you're unsure.

Can you analyse an Arabic questionnaire and report in English?

Yes. I regularly work across both languages, in either direction, including translated instruments.

Which files will I receive?

The report (Word/PDF), the cleaned data file, and the syntax and output (SPSS, AMOS, R or Stata), so every number can be reproduced.

What if my supervisor asks for changes?

Send me the comments. Revisions to the agreed analysis are part of the package, and I'll explain what changed and why.

Can I see a full sample first?

Yes. The anonymized samples listed on the next page are available on request, matched to your method or field.

Do you work with businesses too?

Yes: dashboards, survey programmes, financial reporting and AI-enabled products, in Arabic or English.

Let's make your data make sense.

Send your brief and I'll reply with an analysis plan and a fixed quote. No obligation, and your files stay confidential from the first message.

SEND ME

1. Your title, objectives and hypotheses
2. The questionnaire or instrument
3. Your data file (any format)
4. Guidelines, template and deadline
5. Supervisor comments, if any

EMAIL	mohammed.ayman.stat@gmail.com
LINKEDIN	linkedin.com/in/mohamed-ghareb
GITHUB	github.com/ayman-stat
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LANGUAGES	Arabic · English

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