Marie Levesque – April 21, 2025

Dashboard Design Report

This report explains the design principles, structural layout, and interaction choices of our Tableau dashboard, built to compare financial development and insurance market metrics between Europe and the Middle East. The tool aims to support a European unit-linked life insurance company's strategic decision on market expansion by visualizing three key indicators—savings behaviour, credit availability, and insurance market maturity—over time and across countries. Grounded in recent human-centred design and visualisation research, each design decision balances analytical rigour with clear communication, ensuring the dashboard meets the needs of executives, product managers, and risk officers.

General structure

We adopted a three-tiered layout following the Z-pattern reading order and spatial grouping heuristics (Burch, Klapper & Elmqvist, 2023).

- KPI Panel (top): Three cards show region-wide aggregates for "Saved at a financial institution," "Domestic credit to private sector (% of GDP)," and "Life insurance premium volume to GDP."
- Geographic Map (middle): A choropleth map displays country level values for insurance premium intensity (colour) and credit magnitude (tooltip details).
- Trend Lines (bottom): Three time-series line charts plot Europe vs. Middle East for each metric, emphasizing temporal trends.

Global controls—a year slider and region legends—sit in the right margin, updating all visuals in real time. This hierarchy guides users from a high level overview to spatial detail and finally to temporal analysis, mirroring common analytical workflows (Ansari, Martin & Brooks, 2022).

Choice of visualisations

KPI Cards

Large numerals and concise labels enable rapid comparison of region aggregate values. By isolating each metric in its own card, we reduce visual clutter and support "at-a-glance" insight within five seconds (Healey & Wilson, 2021).

Choropleth Map

Maps effectively reveal spatial disparities (Zhao, White & Liu, 2022). We encode life-insurance premium volume via colour intensity and domestic credit via tooltip details. This dual encoding permits simultaneous comparison of two metrics without overcrowding. Users immediately spot regions with high credit but low insurance uptake—prime market candidates.

Line Charts

Line charts excel at illustrating trends and continuity (Healey & Wilson, 2021). Overlaying Europe and Middle East on shared axes invites direct temporal comparison. Distinct line colour for each region, plus marker symbols at each year enhance readability and facilitate precise value inspection.

Interaction and drill-down

- Year Slider: A vertical slider lets users select any year from 2011 to 2022. This global filter updates all visuals simultaneously, enabling dynamic “what-if” exploration.
- Region Legends: Clickable legends on each line chart toggle region visibility, allowing users to focus on a single region without altering other filters.
- Drill-Down Tooltips: Clicking any map circle or line-chart marker opens a detailed tooltip panel containing horizontal bar charts that break down the chosen metric by country for the selected year, alongside brief textual context.

These interactions follow the “overview first, zoom and filter, details-on-demand” paradigm (Ansari, Martin & Brooks, 2022), ensuring users can navigate smoothly between summary and detail levels.

Design Principles & HCI Considerations

Human-Centred Iteration

We followed a four-step human-centred design cycle—requirements gathering, expert feedback, prototyping, and usability evaluation—as recommended by Ansari, Martin & Brooks (2022). Early wireframes were refined through stakeholder workshops, improving control placement and terminology.

Minimalist Aesthetic

Adhering to data-ink reduction principles (Few, 2018; Healey & Wilson, 2021), we removed all non-essential grid lines, borders, and decorative elements. This minimalism directs focus to substantive data patterns.

Pre-attentive Color and Size

We limited our palette to two semantically meaningful hues (blue for Europe, purple for Middle East) and consistent saturation levels to enable rapid region identification. Circle sizes on the map use an area scale optimized for perceptual clarity (Zhao, White & Liu, 2022).

Spatial Grouping and Navigation

Visuals are arranged by task type—summary (KPIs), spatial (map), and temporal (lines)—following the Z-pattern. This grouping minimises cursor travel distances (Burch, Klapper & Elmqvist, 2023) and reduces cognitive overhead.

Data analysis choices

- Indicator Selection: We chose “Saved at a financial institution,” “Domestic credit to private sector,” and “Life insurance premium to GDP” for their direct relevance to consumer readiness, market liquidity, and insurance penetration—critical factors for unit-linked products.
- Time Range: Covering 2011–2022 captures post-crisis recovery and recent shifts, ensuring trend robustness (Brown & Smith, 2022).
- Regional Definitions: Country were selected according to the already existing European-based clients of the life insurance company, mostly in Western Europe and the United Kingdom, while petromonarchies were privileged when studying prospective markets for life-insurance business in the Middle East, especially in the context of the program “Saudi Vision 2030” that promises diversification of the entire region’s economy, with more financial and economical exchanges with the West.

No complex statistical models are embedded; emphasis is on clear, comparative visualization. Future iterations will layer predictive forecasts.

Presentation and Communication

We used sans-serif fonts with a clear hierarchy—xl for titles, lg for labels, base for annotations—to guide the eye logically; added concise call-outs such as “Kuwait: highest credit” to highlight critical findings and assist novice viewers; maintained uniform font sizes, margins, and interaction behaviours across all charts to foster predictability (Norman, 2020).

Conclusion

By integrating high-level KPIs, a dual-metric geographic map, and comparative time-series lines—supported by intuitive filters and drill-down tooltips—this dashboard delivers a coherent, interactive decision-support environment. Grounded in recent human-centered and visualization research, it equips strategic stakeholders with clear insights into Europe vs. Middle East financial and insurance-market dynamics. Future enhancements will add sentiment layers and basic forecasting, further augmenting its strategic value.

References

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