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Standardizing UX Dashboards: A Framework Integrating Usability Metrics, Benchmarks, and Glossaries for Managerial Insight

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ABSTRACT: User experience (UX) dashboards serve as essential tools for translating complex digital interaction data into strategic business insights. This study aims to construct a comprehensive dashboard framework by integrating international usability standards, validated public benchmarks, and a structured glossary of UX metrics. Drawing upon ISO 9241 11, ISO/IEC 25010, the HEART framework, and benchmark data from sources like CrUX, Mixpanel, and Baymard Institute, the proposed model categorizes UX metrics into subjective (e.g., SUS, UMUX Lite), behavioral (e.g., DAU/MAU), and technical (e.g., LCP, INP, CLS) dimensions. The study applies a structured classification of metrics grounded in usability standards and validated benchmarks. Key findings highlight benchmark and glossary tables that consolidate formulas, interpretation guidelines, and sector averages. For instance, SUS scores above 68 and UMUX Lite above 70 indicate acceptable usability, while Core Web Vitals thresholds remain critical. The framework offers practical guidance for consistent and real-time UX evaluations and supports future empirical validation.

Keywords: User Experience, UX Dashboard, Usability Metrics, ISO 9241 11, Core Web Vitals, Benchmark Analysis, UX Evaluation, Design Standards.

INTRODUCTION

The evaluation of user experience (UX) in digital products has become central to understanding how users interact with technology and how these interactions can translate into tangible business outcomes. UX metrics such as task completion, time on task, error rates, and satisfaction indices (e.g., SUS, NPS) are widely used to measure usability performance. These indicators capture task success, efficiency, and subjective satisfaction, offering a comprehensive view of user interactions (Alhasani et al., 2023; Parmanto et al., 2016).

The growing integration of UX dashboards into digital product teams demonstrates the increasing importance of real time, visualized experience data in decision making processes. Dashboards

aggregate a range of UX indicators subjective, behavioral, and technical into a coherent view, enabling stakeholders to detect performance trends and diagnose usability breakdowns across user journeys. They do not merely reflect interaction quality but also offer a path to strategic insight when UX data correlates with key business indicators like customer retention and conversion rates (Chaniaud et al., 2020; Grecco et al., 2021).

However, despite these advantages, widespread variation in the metrics used and the lack of standardization hamper the comparative reliability of UX dashboards. Disparate metric definitions, inconsistent tools, and fragmented data pipelines mean that usability can be interpreted differently across products and contexts (Harte et al., 2017; Mol et al., 2020). This not only distorts performance measurement but also risks misleading stakeholders when decisions are made based on incompatible or poorly contextualized UX indicators (Fazzino et al., 2018). The issue is particularly acute in organizations with multiple product teams or platforms where coherence and comparability are essential.

To address these inconsistencies, international standards such as ISO 9241 11 and ISO/IEC 25010 have become increasingly important in promoting reliable UX evaluation frameworks. ISO 9241 11 defines usability as the degree to which specified users can achieve specified goals effectively, efficiently, and with satisfaction in a specified context (Parreira et al., 2020). Its contextual emphasis ensures that UX metrics are not only standard but also situationally relevant. Compliance with such standards enhances organizational accountability, particularly in domains with regulatory scrutiny such as healthcare and education (Muro-Culebras et al., 2021).

Within the organizational sphere, frameworks such as HEART (Happiness, Engagement, Adoption, Retention, and Task Success) have emerged to structure UX metrics more holistically (Agarwal et al., 2021; Rahayu et al., 2021). This framework maps UX measurement onto business outcomes using a combination of goals, signals, and specific metrics. Techniques like A/B testing and Objectives and Key Results (OKRs) further reinforce the alignment between UX feedback and strategic product development (Tsai et al., 2019).

The increasing adoption of UX dashboards within enterprise level product teams mirrors a broader shift toward user centric business models. Historically overshadowed by conventional business KPIs, UX is now recognized as a strategic lever for product differentiation and growth. Organizations leveraging UX data are able to iterate more rapidly and align product design closely with user needs (Farzandipour et al., 2018). The integration of agile and UX research processes allows for real time insights and fosters a culture of continuous improvement (Afriansyah et al., 2022; Higham et al., 2022).

Given these dynamics, the need to unify UX metrics into a standardized, benchmarked, and easily interpretable dashboard has become more urgent. A dashboard model that draws from verifiable standards and incorporates both subjective and technical metrics can bridge the gap between user feedback and strategic execution. This study presents a proposed structure combining international usability standards, empirical benchmark data, and a metric glossary to support managerial decision

making. By laying this groundwork, it contributes to ongoing efforts to embed UX more deeply within the operational and strategic fabric of digital organizations.

METHOD

This study employed a qualitative-descriptive approach using literature analysis and comparative assessment of international standards. The primary focus was on constructing a UX dashboard framework by integrating usability standards, public benchmarks, and a glossary of UX metrics. The design is exploratory in nature, aiming to produce a conceptual model applicable to digital organizational contexts.

The data sources included:

1. International standards such as ISO 9241-11 and ISO/IEC 25010, which define usability and software product quality.
2. Evaluation frameworks such as the HEART framework, which maps UX indicators to strategic dimensions.
3. Public benchmarks from datasets like CrUX (Chrome User Experience Report), Mixpanel, and Baymard Institute, which provide threshold values and global averages.
4. Academic literature (2016–2024) addressing usability metrics, UX measurement, and digital dashboard applications.

The initial stage involved the systematic search and selection of articles, standards, and benchmark reports through databases such as Scopus, Web of Science, and public repositories. UX metrics were then categorized into three dimensions:

- Subjective (e.g., SUS, UMUX-Lite, NPS),
- Behavioral (e.g., DAU/MAU, cart abandonment),
- Technical (e.g., LCP, INP, CLS).

Classification combined metric definitions, calculation formulas, and interpretation guidance derived from standards.

Framework Development

The framework was developed through three main steps:

1. Standardizing terminology by creating a glossary of metrics containing definitions, formulas, and interpretation guidelines.
2. Calibrating thresholds using global benchmark data to provide comparative references within the dashboard.
3. Theoretical validation by linking the framework with recent literature to ensure both academic rigor and practical relevance.

Data Analysis

Analysis was conducted using both narrative and tabular synthesis. Benchmark data were consolidated into tables showing global averages and thresholds, while the glossary was structured to support dashboard implementation. Internal validity was maintained through triangulation across standards, benchmarks, and scholarly literature.

RESULT AND DISCUSSION

Benchmark Table of UX Metrics

The benchmark table integrates both public datasets and synthesized literature values, offering reliable reference points for organizations to calibrate their UX dashboards. Key global thresholds and averages were extracted from research and platforms such as CrUX, Mixpanel, and Baymard Institute.

Metric	Avg / Threshold	Interpretation
SUS	68 (avg); >80 = Excellent	Evaluates usability; higher = better user experience
UMUX Lite	≥70	Acceptable usability threshold; correlated with SUS
NPS	>0 = Satisfactory; >50 = High	Loyalty metric; highly sector specific
DAU/MAU	≥0.2 (Healthy)	Proxy for user retention and engagement
LCP (Mobile)	≤2.5s	Loading performance; longer times reduce satisfaction
INP	≤200 ms	Responsiveness; lagging above this frustrates users
CLS	≤0.1	Visual stability; higher = disruptive experience
Cart Abandonment	~70%	Often tied to UX issues during checkout

UX Metrics Glossary Table

This glossary summarizes validated formulas, source authority, and interpretation guidance for dashboard implementation.

Metric	Formula	Interpretation
SUS	Sum(Items 1–10) × 2.5	68 = Average; >80 = Excellent
UMUX Lite	Avg(2 Items) × 25	Acceptable usability ≥70
CES	Single item, 1–7 scale	Lower score = easier task resolution
NPS	%Promoters − %Detractors	>50 = High satisfaction; context sensitive
LCP	Time to render largest visible element	≤2.5s = optimal loading speed
INP	Delay from input to next visual frame	≤200ms = fast and responsive
CLS	Sum of unexpected layout shifts	≤0.1 = stable layout
DAU/MAU	Daily Active Users ÷ Monthly Active Users	>0.2 = strong engagement and habitual usage

Supplementary Findings

- DAU/MAU ratios vary by product type: e.g., >0.5 in gaming, ~0.2 in e commerce (Lewis, 2019).
- CES is often preferred in post support evaluations for identifying friction points (Hach et al., 2024).
- Cart abandonment is significantly reduced by improving checkout UX (Afriansyah et al., 2022).

These data provide the empirical basis for the dashboard framework developed in this study, aligning user centered insights with business relevant performance standards.

Risks of Misinterpreting UX Metrics

The interpretation of UX metrics within managerial dashboards presents considerable potential but also critical risks when not approached with nuance. Oversimplifying complex behavioral patterns into singular high level scores can obscure underlying usability problems. For example, a high NPS might signal user satisfaction while concealing friction points in navigation or functionality (Breitenstein et al., 2024). Similarly, task completion rates or time on task averages might suggest efficiency but fail to uncover qualitative aspects such as user frustration or emotional response.

Dashboards can also perpetuate focus on vanity metrics data that appear impressive but offer little insight into actionable outcomes (Katapally & Ibrahim, 2023). This superficial engagement can misdirect strategic priorities, especially when metrics like page views or app installs are detached from conversion or retention goals. Organizations may mistakenly believe that strong performance

in one area automatically translates into holistic user satisfaction, which can lead to underinvestment in more critical usability enhancements.

Confirmation bias further compounds these issues, where decision makers fixate on positive indicators while ignoring contradicting signals that warrant redesign or deeper inquiry (Hammad et al., 2023). This selective attention can erode objectivity in product evaluations and ultimately reduce the effectiveness of UX interventions. Moreover, misinterpreting metrics due to lack of context such as comparing user behavior across vastly different devices or demographics can result in misaligned strategies that do not reflect actual user needs.

Importance of Standardization in Cross Functional Teams

Another prevalent challenge is the reliance on outdated benchmarks or irrelevant industry comparisons. Without continual recalibration against updated standards, organizations may either overestimate their UX maturity or underinvest in areas requiring urgent attention (Rachansa & Meditya, 2024). This misalignment often stems from applying generic data without contextual relevance, especially problematic in specialized domains like healthcare or education.

Standardization emerges as a key remedy to these risks, offering a shared vocabulary and set of expectations across design, product, and business teams. By aligning around widely adopted metrics such as SUS, NPS, UMUX Lite, and DAU/MAU teams benefit from reduced miscommunication and clearer evaluation of UX interventions (Karami & Safdari, 2016). Such shared understanding also promotes efficient handoffs between departments, from research and design to analytics and marketing, enabling a more integrated approach to product development.

Moreover, standardization supports interdepartmental collaboration, enabling designers, developers, and executives to interpret findings consistently and develop shared goals. This practice not only enhances communication but fosters accountability and a unified focus on customer experience improvement (Afshari et al., 2024). In data driven organizations, having standardized metrics also improves transparency and facilitates the development of longitudinal UX performance monitoring systems.

Adapting Benchmarks Across Industries

However, applying benchmarks across industries requires contextual adjustment. Best practices include grounding benchmarks in domain specific needs for example, prioritizing usability in healthcare versus conversion in retail (Munbodh et al., 2022). Different industries possess unique engagement patterns, compliance requirements, and user expectations that must be considered when setting UX performance targets.

Organizations should adopt multi metric approaches rather than relying on a single KPI, allowing for more granular, representative insights (Safranek et al., 2022). Composite scorecards that integrate usability, loyalty, engagement, and retention measures provide a more comprehensive overview of user satisfaction and product effectiveness. Additionally, teams should conduct cross

sector workshops and stakeholder consultations to refine the relevance of selected metrics and ensure buy in across the organization.

Real time data feedback loops supported by iterative user testing should feed back into these benchmarks to maintain their relevance amid shifting market expectations (Badgeley et al., 2016). Furthermore, continuously evolving competitive landscapes and user preferences require organizations to update their benchmarks regularly to stay competitive and user focused.

Integrating Real Time UX Data

Implementing real time UX data pipelines into dashboards adds another layer of responsiveness and strategic agility. Advanced analytics and machine learning models enable immediate interpretation of interaction patterns, empowering managers to act proactively (Kharazmi et al., 2023). Such responsiveness is especially valuable in high stakes environments such as financial services or healthcare, where usability issues can have significant downstream consequences.

Dashboards equipped with interactive data visualizations, dynamic filters, and alert based threshold triggers further enhance the utility of UX insights (Ma & Millet, 2021). By allowing stakeholders to adjust and explore data based on various parameters device type, user cohort, task flow dashboards become analytical tools rather than static summaries. These features enable more informed and tailored decision making.

Seamless integration of cross platform data ensures that decisions reflect comprehensive user behavior across the digital ecosystem. Real time synthesis of desktop, mobile, and in app interactions gives managers a 360 degree view of UX performance and highlights interdependencies between channels. Real time alerts, automated reports, and historical trend comparisons help detect UX regressions early, preventing minor issues from escalating into broader dissatisfaction.

Synthesis and Implications

Ultimately, for dashboards to fulfill their potential as strategic tools, they must integrate standardization, contextual adaptability, and real time responsiveness. These capabilities ensure that UX metrics are not static indicators but living signals of user needs, guiding product evolution and business alignment in parallel.

In doing so, dashboards shift from being mere monitoring instruments to strategic assets that influence budgeting, feature prioritization, and customer experience initiatives. The synthesis of standardized metrics, industry specific benchmarks, and real time analytics builds a powerful infrastructure for continuous improvement and competitive advantage. A well executed UX dashboard empowers organizations not just to react to user needs but to anticipate them, fostering a cycle of innovation grounded in evidence and empathy.

CONCLUSION

This study develops a structured framework for UX dashboards by integrating standardized metrics, validated benchmarks, and a glossary that ensures interpretability across teams. Grounded in ISO 9241-11, ISO/IEC 25010, and data from repositories such as CrUX and Mixpanel, the model organizes UX indicators into subjective, behavioral, and technical dimensions. This categorization bridges usability insights with managerial decision-making, supporting consistency, comparability, and actionable evaluations.

Beyond serving as a visualization layer, the dashboard operates as a decision-support system that aligns user-centered measures with strategic objectives. By addressing risks of metric misinterpretation, underscoring the value of standardization, and highlighting the role of real-time analytics, the framework contributes to both operational efficiency and long-term product innovation. Future research should validate its effectiveness in real-world contexts and explore automation for continuous benchmark updates.

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