Applying Behavioral Insight Design: A Practical Framework for Enhancing User Experience in Interactive Data Applications

Applying BID Framework

Milena Eickhoff[a,1,*], Jeremy R. Winget[b,2]

[a] *Another University, Department Name, Street Address, City, Postal Code*

[b] *Some Institute of Technology, Department Name, Street Address, City, Postal Code*

Abstract

This is the abstract. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vestibulum augue turpis, dictum non malesuada a, volutpat eget velit. Nam placerat turpis purus, eu tristique ex tincidunt et. Mauris sed augue eget turpis ultrices tincidunt. Sed et mi in leo porta egestas. Aliquam non laoreet velit. Nunc quis ex vitae eros aliquet auctor nec ac libero. Duis laoreet sapien eu mi luctus, in bibendum leo molestie. Sed hendrerit diam diam, ac dapibus nisl volutpat vitae. Aliquam bibendum varius libero, eu efficitur justo rutrum at. Sed at tempus elit.

Keywords: keyword1, keyword2

1. Abstract

- Briefly introduce the BID framework.
- Emphasize practical applications: structured steps designers/developers can directly adopt.
- Highlight UX advantages: reduced cognitive friction, enhanced insight extraction, increased user satisfaction.

*Corresponding author

Email addresses: m.eickhoff@skimgroup.com (Milena Eickhoff), contact@jrwinget.com (Jeremy R. Winget)

[1] This is the first author footnote.

[2] Another author footnote, this is a very long footnote and it should be a really long footnote. But this footnote is not yet sufficiently long enough to make two lines of footnote text.

2. Introduction

- Context: growing industry demand for actionable UX methodologies incorporating psychological insights.
- State the need for a clear, structured UX process grounded in cognitive science and behavioral insights.
- Introduce BID as a practical UX-oriented framework designed explicitly for interactive data applications.

3. Literature Review: Practical UX Context

- Briefly overview existing UX frameworks (Design with Intent, Persuasive Systems Design, Cognitive Fit Theory, data storytelling).
- Identify practical limitations or gaps in existing methods (e.g., fragmented approaches, lack of a structured end-to-end method).
- Position BID clearly within the UX literature as an integrated solution, drawing explicitly on the psychological theories outlined in the theoretical paper.

4. Overview of Behavioral Insight Design (BID) Framework

- Short summary of each stage tailored specifically for UX practitioners:
  - Notice user friction
  - Interpret user insights
  - Structure dashboard information
  - Anticipate cognitive biases
  - Validate and empower users through UX design

5. Application of the BID Framework in Practice

For each stage, include: 1. Stage 1: Notice User Friction - Practical methods: heuristic evaluations, friction point audits, user interviews. - UX tools recommended: usability testing, cognitive walkthroughs. 1. Stage 2: Interpret User Insights - Methods: data storytelling best practices, storyboard creation, defining user journeys. - Highlight practical tips for narrative clarity and data reduction. 1. Stage 3: Structure Dashboard Information - Guidelines: visual hierarchy, defaults, Gestalt grouping. - Practical UX examples: optimal layouts, recommended widgets/components, interactivity levels. 1. Stage 4: Anticipate Cognitive Biases - Explicit bias mitigation techniques: visual framing, scenario toggles, debiasing cues. - Provide examples of bias-aware visual designs (e.g., anchoring reduction through careful baseline selection, reframing of KPIs). 1.

Stage 5: Validate and Empower Users - Recommendations: summarize key insights, ensure aesthetic appeal, implement collaborative UX features. - UX best practices: design checklists for peak-end experiences, validation via usability testing.

6. Case Study: Implementation of BID Framework

- Showcase a detailed, practical example (ideally using a real or hypothetical Shiny dashboard case).
- Highlight how BID practically influenced UX design choices at each stage.
- Discuss measurable UX outcomes: improved usability, increased user comprehension/confidence, evidence from user testing, or satisfaction scores.

7. Discussion: UX Impact & Practical Adoption

- Summarize how BID fills UX gaps and provides actionable guidance.
- Highlight benefits specifically for dashboard or interactive data visualization designers.
- Discuss practitioner-oriented implications: ease of adoption, required UX skill levels, integration into agile UX workflows.

8. Future UX Research and Extensions

- Suggest practical UX studies to empirically validate BID framework effectiveness.
- Outline potential UX-focused extensions: accessibility design, inclusive UX practices, AI-assisted BID integration.

9. Conclusion

- Restate BID's value for UX practice: clear, structured, actionable.
- Encourage UX professionals to adopt and adapt the BID framework in industry settings.

References