

Pen-and-paper Rituals in Service Interaction: Combining High-touch and High-tech in Financial Advisory Encounters. Dolata, et al. PACMHCI. 2019.

What are the core research questions addressed by the work?

- How to enhance high-touch advisory services with technology?

What motivates the work?

- There is an existing tension between using a computer during service encounters to save, process, or visualize the data (high-tech) and the ritualized, individualized, and human character of the service encounter (high-touch)
 - The ambition to streamline or improve encounters often drives organizations in a wrong direction

How does the work understand the usage, capabilities, and limitations of paper?

- Affords “high-touch interaction”
- Pen-and-paper usage is almost ritualistic - heavily embedded in the practice of advisory consultations
- Paper is used to establish common focus, compare options, and introduce new information

What is the target application domain of the work?

- Advisory services
 - The work targets financial advisory services specifically, but the findings are likely relevant to any “high-touch” scenario which now involves heavier use of technology
- Explicitly lists: Business consulting, doctor-patient interaction, service interaction

What are some proposed extensions to paper proposed by the work?

- The proposed improvements to advisory services through high-tech interventions include the following:
 - Introduce physical objects to engage spatial and sensory perceptions (multimodality)
 - Introduce dynamic graphics to make abstract relations comprehensible (experiential learning)
 - Keep objects and their content stable and recognizable, while allowing for manipulation and movement to support object constancy (object constancy)
- Additionally captures handwriting

What design constraints or objectives guided the work’s implementation of the proposed extensions?

- Retaining some key practices and settings of high-touch services is of paramount importance in this paper, so all extensions are implemented with that as a priority
- Combining high-touch and high-tech requires (1) support of physical rituals typical for advisory services and (2) implementation of further features that extend beyond those rituals and leverage the technical possibilities
- Retaining current practices and settings are of paramount importance. In the case of financial advisory consultations, this involves the following:
 - Support physical handling of paper such as free, dynamic positioning

- Support creation of individualized content through handwriting
- Support introduction of new material into the interaction area
- Enable advisor and advisee to access the shared interaction area
- Enable storing of unused material on the table, outside the interaction area
- Enable interaction in a bright room furnished in a standard way
- Multimodality, experiential learning, and object constancy are apt extensions afforded by high-tech interventions

How are the proposed extensions implemented?

- A ceiling integrated projector (Optoma UHD60 4K) with sensors (Microsoft Kinect) to enable input and feedback in the interaction area
- Wacom Bamboo slate captures writing

What findings have been obtained from either the implementation process or an evaluation of the proposed system?

- Results show the high-tech intervention to have yielded an increase in pragmatic quality and also emotionally loaded qualities (identity, stimulation, and attractiveness) for advisees and emotionally loaded qualities for advisors
 - Slightly lower pragmatic quality for advisors