# Case Study Report: Redesigning the Malawi Stock Exchange (MSE) Website

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Subject: Heuristic Evaluation and User-Centric Redesign of MSE.co.mw

## 1. Executive Summary

The Malawi Stock Exchange (MSE) serves as a critical financial gateway for the nation, facilitating capital formation and offering investment opportunities for both local and international stakeholders. However, the current digital interface (mse.co.mw) presents significant usability barriers that hinder financial inclusion and reduce investor confidence.

This report details a comprehensive redesign project aimed at modernizing the MSE web presence. Through a rigorous application of Human-Computer Interaction (HCI) principles—specifically Gestalt psychology, Fitts’s Law, and Nielsen’s Usability Heuristics—we have developed a prototype that enhances information accessibility, establishes institutional trust, and accommodates a diverse range of user tech-literacy levels.

## 2. Evaluation of the Current System

### 2.1 Overview

The existing website was evaluated using a combination of **Cognitive Walkthroughs** and **Heuristic Evaluation**. The primary finding is that the site suffers from "legacy bloat"—a design pattern common in the early 2000s characterized by dense text, rigid table structures, and a lack of visual hierarchy.

### 2.2 Heuristic Analysis (Nielsen’s 10 Usability Heuristics)

We audited the current site against Jakob Nielsen’s 10 Usability Heuristics. The following violations were identified as critical severity issues:

#### **Heuristic #8: Aesthetic and Minimalist Design (Severity: High)**

* **Observation:** The homepage is cluttered with competing information. Tickers, news feeds, PDFs, and static welcome messages vie for attention simultaneously.
* **HCI Impact:** This creates high **Cognitive Load**. Users must expend significant mental energy to filter out irrelevant information before they can find the data they need (e.g., "What is the current share price of TNM?").
* **Violation:** The signal-to-noise ratio is too low. Every extra unit of information competes with the relevant units of information.

#### **Heuristic #4: Consistency and Standards (Severity: Medium)**

* **Observation:** The navigation menu uses inconsistent terminology and deeper-level pages often lose the main navigation bar entirely or change its style.
* **HCI Impact:** This breaks the user’s **Mental Model**. Users expect financial websites to follow standard patterns (e.g., "Market Data" is usually a primary top-level item). When the site deviates from these standards without purpose, users feel lost.

#### **Heuristic #1: Visibility of System Status (Severity: Medium)**

* **Observation:** It is unclear when the market data was last updated. Is the displayed price from 5 minutes ago or yesterday's close?
* **HCI Impact:** Lack of feedback regarding data currency erodes trust. In financial markets, "system status" (market open/closed, data latency) is critical information.

#### **Heuristic #7: Flexibility and Efficiency of Use (Severity: High)**

* **Observation:** There are no accelerators for expert users (e.g., a "Quick Quote" search bar). Users must navigate through multiple clicks to find a specific company's performance.
* **HCI Impact:** Inefficient interaction cost. The number of steps required to perform a primary task is too high.

### 2.3 Accessibility Audit (WCAG 2.1)

* **Contrast Failures:** Much of the text is light grey on white or dark grey backgrounds, failing the AA standard (4.5:1 ratio). This excludes users with low vision or those viewing screens in bright sunlight (common in Malawi).
* **Mobile Responsiveness:** The current site uses fixed-width tables. On mobile devices, this forces users to scroll horizontally to read data, a major usability flaw known as "horizontal scrolling fatigue."

## 3. User Analysis & Personas

To ensure the redesign met real needs, we identified two primary user personas with distinct goals and pain points.

### **Persona A: The Local Novice (Chisomo)**

* **Profile:** University student, tech-savvy but financially inexperienced. Using a smartphone.
* **Goal:** Wants to understand how to buy shares for the first time.
* **Pain Point:** Intimidated by jargon and the "wall of text" interface. Cannot find the "How to Invest" guide easily.

### **Persona B: The International Investor (John)**

* **Profile:** Fund manager based in London. Using a desktop monitor.
* **Goal:** Needs quick access to daily trading reports and historical data for valuation.
* **Pain Point:** Frustrated by the lack of visual graphs; has to download PDFs just to see price trends.

## 4. Redesign Strategy & HCI Justification

The redesign philosophy centered on **"Trust through Clarity."** We utilized specific HCI concepts to solve the problems identified above.

### 4.1 Gestalt Principles in UI Design

We leveraged Gestalt psychology to help users process information faster.

* **Law of Proximity:**
  + *Problem:* On the old site, stock symbols, company names, and prices were presented in wide, disjointed rows.
  + *Solution:* In the redesign, we grouped related data points (Ticker, Price, % Change) into compact cards or tighter table rows. By placing these elements physically closer, the user perceives them as a single informational unit.
* **Law of Similarity:**
  + *Application:* We used consistent color coding for market movement. All "positive" changes are Green (#10b981), and all "negative" changes are Red (#ef4444). This allows users to scan the dashboard and instantly perceive the "mood" of the market without reading the numbers.

### 4.2 Visual Hierarchy and Scanning Patterns

Users do not read websites; they scan them. We designed for **F-Shaped Scanning**:

1. **Top Horizontal Bar:** We placed the most critical, constantly changing data (Indices: MASI, DSI) in a sticky header. This ensures the "system status" is always visible.
2. **Vertical Left Rail (or clear section headers):** We used strong typography (Playfair Display for headings) to anchor the user's eye as they scan down the page.
3. **Typographic Scale:** We established a strict hierarchy:
   * **H1 (Hero):** "Invest in Malawi's Growth" (Emotional hook).
   * **H2** (Section): "Market Performance" (Navigation signpost).
   * **Body (Data):** Inter font with tabular lining figures for clear number readability.

### 4.3 Fitts’s Law and Interaction Cost

Fitts’s Law states that the time to acquire a target is a function of the distance to and size of the target.

* **Touch Targets:** On the mobile redesign, we increased the height of table rows to 48px (minimum touch target size).
* **Call to Action (CTA):** The "View Market Data" and "Start Investing" buttons were made significantly larger and placed in the "thumb zone" (bottom half of the screen on mobile) to minimize physical effort.

## 5. Detailed Redesign Decisions

### 5.1 The Homepage: From Directory to Dashboard

The original homepage functioned as a directory of links. The redesign treats the homepage as a **Dashboard**.

* **Hero Section:** Replaced the static welcome text with a high-quality image of the Malawian skyline overlaid