## Project - E-Commerce Application on IBM Cloud Foundry

**TEAM MEMBER**

**210621205033- P.Manoj**

**Phase-1 Document Submission**

# Problem Definition

**Scope**: The problem at hand is the development of an artisanal e-commerce platform hosted on IBM Cloud Foundry. The scope encompasses creating a digital marketplace that connects skilled artisans with a global audience.

**Objectives**:

1. **Artisan Empowerment**: The primary objective is to empower artisans, including jewelry makers, home decor craftsmen, and other skilled individuals, by providing them with a digital platform to showcase and sell their handmade products.
2. **Global Reach**: Facilitate access to a global audience, allowing artisans to expand their reach beyond local markets, promoting cross-cultural exchange, and fostering international trade.
3. **User Experience**: Ensure a seamless and engaging user experience for both artisans and customers. This includes intuitive product browsing, secure shopping carts, smooth payment gateways, and an easy-to-navigate checkout process.
4. **Security**: Implement robust security measures to protect customer and artisan data, including sensitive payment information, adhering to industry best practices and compliance standards.
5. **Support for Small Businesses**: Foster an environment that supports small businesses and encourages entrepreneurship by offering a platform where artisans can thrive.

**Challenges**:

1. **Marketplace Creation**: The challenge lies in designing and developing a feature-rich, visually appealing, and user-friendly digital marketplace that caters to a diverse range of artisan products.
2. **Globalization**: Overcoming the complexities of globalization, including multiple currencies, languages, and shipping options, to make the platform accessible and relevant to a global audience.
3. **Security and Compliance**: Addressing security concerns related to handling financial transactions and ensuring compliance with legal and data protection regulations.
4. **User Engagement**: Ensuring active engagement from both artisans and customers, which involves effective onboarding processes, marketing strategies, and ongoing support.
5. **Scalability**: Preparing the platform to handle varying levels of traffic and accommodate the potential growth of artisan sellers and customer demand.

**Success Criteria**:

1. A fully functional and visually appealing artisanal e-commerce platform.
2. High user engagement and satisfaction rates among artisans and customers.
3. Secure and reliable payment processing.
4. Increased sales and visibility for artisans.
5. Expansion of the platform's reach to an international audience.
6. Compliance with relevant legal and regulatory requirements.

# Design Thinking

**1. Empathize:**

* **User Research**: Begin by understanding the needs and motivations of both artisans and customers in the context of an e-commerce platform. Conduct interviews, surveys, and observations to gain insights into their preferences, challenges, and aspirations.
* **Storytelling**: Create user personas and customer journey maps to visualize the experiences of artisans and customers as they interact with your platform. This helps in empathizing with their perspectives.

**2. Define:**

* **Problem Statement**: Based on your empathetic understanding, define the core challenges and opportunities that your artisanal e-commerce platform should address. For example, identify pain points artisans face in reaching a global audience.

**3. Ideate:**

* **Brainstorming Workshops**: Organize collaborative brainstorming sessions with your team to generate creative ideas for the platform's features, layout, and functionality. Encourage out-of-the-box thinking.
* **Idea Generation**: Explore possibilities such as unique ways to showcase artisan products, interactive features to engage users, and innovative payment solutions.

**4. Prototype:**

* **Create Prototypes**: Develop low-fidelity prototypes or wireframes of your platform's key features, including the layout, product showcase, shopping cart, and checkout process. Keep them simple for quick iterations.
* **Feedback Loops**: Share your prototypes with potential users, artisans, and team members to gather feedback early in the design process. Use this feedback to refine your prototypes.

**5. Test:**

* **Usability Testing**: Conduct usability tests with real users to evaluate the effectiveness of your prototypes. Observe how users interact with the platform and identify pain points or areas for improvement.
* **Iterate Based on Feedback**: Continuously refine your prototypes based on the feedback received during testing. Focus on enhancing the user experience and addressing any usability issues.

**6. Implement:**

* **Development**: Once you have a well-tested and refined design, move forward with the development of your artisanal e-commerce platform. Leverage IBM Cloud Foundry for hosting and scalability.
* **Security**: Ensure that security measures are implemented throughout development to protect user data and transactions.

**7. Launch:**

* **Rollout Strategy**: Plan a strategic launch, considering factors like marketing, onboarding, and initial user experiences. Communicate the platform's value proposition effectively to both artisans and customers.

**8. Learn and Improve:**

* **Post-Launch Feedback**: Continue to gather feedback from users and artisans after the platform's launch. Use this feedback to make continuous improvements and enhancements.
* **Data Analytics**: Implement analytics tools to track user behavior and gather insights. Analyze this data to inform decision-making and identify areas for optimization.