

## Feedback on Literature Review Outline

Title: Application of Microservices Architecture in the Development of Web Applications for the Construction Industry

Submitted by: Koulthoum Flamerzi

Module: Research Methods and Professional Practice

Thank you for submitting your literature review outline. Your selected topic—evaluating the application of microservices architecture (MSA) in construction-focused web applications—presents a highly relevant and technically grounded area of research. It reflects a strong alignment with industry trends in digital transformation and addresses a tangible need within a traditionally under-digitised sector. Your proposal demonstrates clear engagement with the subject and awareness of both the technological and organisational dimensions of software design in construction.

Your outline is comprehensive and methodically structured. The intent to explore MSA's relevance to scalability, integration, and agile workflows in the construction domain is well-conceived. The inclusion of real-world tools such as Autodesk Construction Cloud and Trimble Connect demonstrates a clear industry orientation, and your focus on DevOps principles adds a modern, practical dimension to your literature review. However, there are some areas that would benefit from further clarification and refinement to ensure your summative submission meets the standards of analytical depth and academic rigour expected at this level.

### Scope and Focus

The scope of your review is both ambitious and well-articulated. However, within the 2,000-word limit, the thematic breadth could limit your ability to analyse each area with sufficient depth. You address a wide range of concepts—from architectural theory to sector-specific tools, performance metrics, and case study examples. To strengthen the review, consider narrowing your scope to focus on a specific application domain (e.g., project scheduling or collaboration platforms) or one key benefit (e.g., scalability or integration). This would allow for a deeper and more meaningful critical analysis of the literature and reduce the risk of over-generalisation.

### Citation and Referencing

While your outline refers to reputable databases and search strategies, the document does not yet include in-text citations or a reference list. For the summative version, it is essential to support all claims with appropriate references and to include a complete, alphabetically ordered reference list using a consistent academic style (e.g., APA or Harvard). Make sure that each cited work contributes directly to the points you raise in your analysis, especially when discussing existing software platforms, industry practices, or adoption trends.

### Critical Evaluation

You make a good start in outlining potential strengths and weaknesses of MSA adoption in construction. However, your final submission should build on this by critically engaging with the literature—comparing findings, evaluating methodological robustness, and discussing areas of consensus and contention. For example, differing views on cost-efficiency or system complexity should be explored through evidence-based discussion, not just listed. You might also critically assess whether the success of MSA in other industries is transferable to construction, given its unique constraints such as legacy systems and limited digital

infrastructure.

#### Methodological Clarity

Your methodology references the use of major academic databases and provides a list of search terms, which is a strong starting point. For the final review, clearly describe your inclusion and exclusion criteria, your process for selecting sources, and the analytical lens through which the literature will be evaluated. Make it explicit that your work is based entirely on secondary research and includes no form of primary data collection, in accordance with the module's guidelines.

#### Academic Style and Presentation

The outline is generally well-organised, with clear section headings and a logical progression of ideas. For the final submission, ensure your writing adopts a consistent academic tone and includes page numbers and properly labelled sections (e.g., Introduction, Methodology, Main Discussion, Conclusion). Use clear transitions between sections to maintain flow and avoid overly technical or informal language without explanation.

#### Alignment with Module Aims

Your topic demonstrates good alignment with the aims of the Research Methods and Professional Practice module. It applies research principles to a real-world computing context and addresses the professional, technological, and methodological challenges of software design in an industry-specific setting. The interdisciplinary approach—connecting AI, software architecture, and construction management—adds strength to your academic engagement with the material.

#### Summary of Recommendations

To prepare your summative literature review, consider narrowing your thematic focus to ensure analytical depth within the 2,000-word limit. Ensure all content is supported by consistent in-text citations and a properly formatted reference list. Expand your critical evaluation to address contrasting viewpoints and methodological strengths and weaknesses in the literature. Make your research methodology explicit, and confirm your adherence to secondary research requirements. Maintain a formal academic tone and ensure clear structural organisation throughout your document.