

**Capstone Proposal: dKomplex Knowledge and Organizational Management Platform
(dKOMP)**

Summer 2024

Stacy Kirchner, Steven Casey, Keldin Maldonado, Oscar Ochoa, Juan Duarte

CST489: Capstone Project Planning

Advisor: Justin Loza

Executive Summary

In the realm of organizational management, businesses are faced with the challenge of optimizing productivity and efficiency. Regardless of size, companies often encounter hurdles such as ambiguous objectives, underestimated goals, or a lack of clear organizational structure. In response to these common issues, our proposed Organizational Management Platform aims to offer a comprehensive solution rooted in Elliott Jaques' Stratified Systems Theory.

This theory emphasizes that organizations should be structured to align with the inherent hierarchy of human capability and work complexity. Leveraging the Microsoft Power Platform that is used by dKomplex, we plan to develop a solution that addresses these challenges efficiently. The Power Platform's suite of tools facilitates rapid development of user interfaces, backend services, automation, and integration with external APIs or data sources through custom connectors.

Our primary objective is to create a tailored platform for dKomplex, and eventually offering it to other companies seeking to enhance their organizational efficiency. By aligning roles with individual capabilities, as advocated by Jaques' theory, we anticipate improvements in job satisfaction, productivity, and overall effectiveness. Throughout the development process and post-launch, we will actively solicit feedback from dKomplex to gauge the platform's efficacy. Ultimately, we hope that this initiative will provide a scalable solution to a challenge faced by companies as they evolve and grow.

Table of Contents

Introduction/Background..... 4

 Project name and description..... 4

 Problem and/or issue in technology..... 4

 Solution to the problem and/or issue in technology..... 4

Environmental Scan/Literature Review..... 5

Stakeholders 6

 Ethical Considerations..... 6

 Legal Considerations..... 6

Project Goals and Objectives 8

Final Deliverables..... 8

Approach/Methodology..... 8

Timeline/Resources..... 9

Platform..... 10

Risks and Dependencies..... 10

Testing Plan..... 11

Division of Labor and Responsibilities..... 11

References..... 12

Introduction/Background

Project name and description

As dKomplex grows in size, it is experiencing the need to organize the structure of its organization. The company would like to have a structure that is based on the Elliott Jaques' theory of requisite organization. Currently, there is no tool available that supports structuring based on this model. Developing such a tool will allow dKomplex to visualize, plan, and manage different roles within the organization based on the required work of the role. The dKomplex Knowledge and Organizational Management Platform (dKOMP) tool will also ensure employees are being placed in the appropriate levels based on their capabilities. dKOMP will also allow employees to be shown the necessary training that is needed in order to advance to the next level of the hierarchy of the structure.

Problem and/or issue in technology

There are many companies within the technology field that may experience a quick expansion. One ideal theory on structuring a company to ensure all employees are fully engaged and using their full potential is Jacques' theory of requisite organization. Since there is currently no tool that allows for this structuring it can lead to missing gaps and unfulfilled employees. It could also be difficult for a company to learn which employees are most suited for a certain role. Employees also need clear pathways for career advancement and understanding of the knowledge needed to advance.

Solution to the problem and/or issue in technology

A user friendly tool can help solve the problem of ensuring employees are in the current role to create efficiency and employee satisfaction within a company. This tool will provide a

structured approach to define roles, responsibilities, and hierarchies aligned with the requisite organizational model. By creating this organizational tool this will allow companies to allocate tasks and responsibilities appropriately, enhancing productivity and job satisfaction. The tool will also allow employees to search for lessons they can learn, which could help them advance within the company. This transparency in pathways of advancement and alignment of employees to positions can create satisfied employees, leading to a higher retention rate for the company.

Environmental Scan/Literature Review

The literature on organizational transitions in family owned businesses highlights several key factors and theories that help explain the complexities and challenges of these transitions. Research indicates that organizations evolve through various stages of development in a consistent and predictable manner (King, Solomon, & Cason, 1998). The management's capability to adapt to these stages is crucial for organizational success. Jaques Stratified Systems Theory (SST) proposes that an organization should be structured so that managerial roles, task complexity, and individual potential capabilities are aligned. The study "Potential Capability and Organizational Transition: An Application of Elliott Jaques' Stratified Systems Theory in a Family Owned-Business" explores how SST can be applied to ease transitions in family-owned businesses. The study finds that many family-owned businesses struggle with transitions due to the founders and managers inability to adapt to new organizational stages (King, Solomon, & Cason, 1998). Jaques's framework helps identify the potential capabilities of key managers and aligns these with their roles, allowing for efficient transitions while maintaining the organizational structure of the business.

Similar tools are difficult to find online, however there is one that attempts to be very similar. This tool is Orginio, created by Ingentis (Ingentis, n.d). While it offers organizational

charts, it lacks essential features like performance management and individual development plans. dKOMP aims to provide a tailored experience which allows for more complex management which Orginio can't provide.

Stakeholders

The end user for this project will be dKcomplex, but hopefully the tool can be used by other companies with similar needs. This tool will benefit the end user by meeting their need to implement requisite organization practices. Implementing these practices will enhance organizational efficiency and ensure each employee's abilities are fully utilized.

Ethical Considerations

A tool that helps define employees' roles, responsibilities, and hierarchies within an organization needs to take ethical considerations to ensure there's no algorithm bias while allocating positions. That is also why human oversight and transparency will also need to be taken into consideration to ensure the tool provides fair and equal opportunities to all employees. This tool will require information from employees to accurately place them within the organization based on their characteristics so it's crucial to protect employees' privacy and data. Lastly, employees should have the option to give their consent before using a tool that will influence their careers.

Legal Considerations

In order to be aligned with data protection and privacy laws, it will be crucial to receive consent from the user before collecting any data. Robust security measures will need to be implemented to protect this from unauthorized access. Since this project will be developed using Microsoft Power Platform, it is important there is compliance with Microsoft's licensing terms.

This tool will also need to have tests to confirm it provides fair and unbiased opportunities to employees, in compliance with Equal Employment Opportunity laws.

Project Goals and Objectives

- **Goals** are what you want to accomplish in the long-term
 - To have the application used company-wide.
 - Have a version deployed to be used by external companies
 - Digitize the business management processes of dKomplex
 - Increase dKomplex management efficiency by a minimum of 20%

- **Objectives** are concrete accomplishments that are achieved by following certain steps
 - Set up the UI as the skeleton of our application
 - Implement a database that connects to our application
 - Integrate the frontend and backend components to develop a fully functional application
 - Incorporate client feedback to enhance and implement their suggestions

Final Deliverables

The final deliverable for this capstone project is to deploy a Microsoft Power Platform application named dKOMP for dKomplex. The application will be accessible to anyone within the company with restricted access based on their employment title within the company. Users with manager access will be able to add, review and edit employee's individual performance appraisals. Another part of this performance management component is to have employees be able to create individual development plans. The application will also have a knowledge management component, which will allow users to search and add lessons that have been learned

from projects. Another important part of the final product will be to implement an admin mode, which will allow for the highest level of security and access to structure the organization chart.

Approach/Methodology

The methodologies we intend to follow to complete this project are Agile, Scrum, and Kanban methodologies. Agile will guide our team in managing, planning, and collaborating on the development of dKOMP. Scrum will ensure accountability within the team and provide transparent development status updates to stakeholders. Our team will have sprint planning before each three week long sprint. During the sprints, the team will meet together daily for brief scrum meetings. Additionally, Kanban will help us manage our workload effectively using visual boards.

Timeline/Milestones/Resources

Sprint	Dates	Milestones	Actions	Resources Needed
--------	-------	------------	---------	------------------

0	May 7 – June 2	Meet with Client and Plan	Meet with the CEO of DComplex to understand requirements and create a project plan	Microsoft Teams
	May 28 – July 26		Scrum Stand up Meetings	Microsoft Teams
	May 29	Sprint 1 Planning	Plan for the first iteration	Azure DevOps, Microsoft Teams
1	June 3 – 23	Research technology, create wireframe/mock ups	Research and compare best technologies and create proof of concept	Azure DevOps, Microsoft Power platform, Azure Web Apps, React, Microsoft Dataverse
	June 19	Sprint 2 Planning	Plan for the second iteration	Azure DevOps, Microsoft Teams
2	June 24 – 15	Began Developing and create Prototype	Create Interactive Organizational Chart, Drag-and Drop Interface, Manager and Subordinate Views, User	Azure DevOps, Microsoft Power platform, Azure Web Apps, React, Microsoft Dataverse

			Security, Manager Security, Admin Security	
	July 14	Sprint 3 Planning	Plan for the third iteration	Azure DevOps, Microsoft Teams
3	July 15 – Aug 4	Workout bugs and add details	Add Role Specification Pop Up, Individual Development Plans, Individual Performance Appraisals, Lessons Learned, Knowledge Management,	Azure DevOps, Microsoft Power platform, Azure Web Apps, React, Microsoft Dataverse
After	August 5 – 10	Prepare for Capstone Presentation	Create Presentation showing finished product	PowerPoint, Video Editor

Platform

For the development of our dKOMP application, we will utilize the Microsoft Power Platform. This platform offers great features that enable quicker, more efficient, and simpler application development. The Microsoft Power Platform also provides our team with all the necessary tools and resources to bring this application to life. Microsoft Dataverse will also be used as our primary data management platform, which will provide a secure and scalable

environment for storing and managing our data. Additionally, dKomplex specializes in implementing tools and solutions with the Microsoft Power Platform, this will allow dKomplex to make changes and apply updates in the future. This is the initial plan however, we are going to conduct research during our first sprint to identify the most effective technologies to implement our solution for creating dKOMP.

Risks and Dependencies

A risk our team needs to be cautious of from the beginning is ensuring all requirements are accurately communicated from the client to the team. If requirements are not understood, the team risks the chance of creating an application that does not satisfy the client. In order to reduce this risk, our team has designated a product owner to confirm we are correctly carrying out the client's requirements. Another risk that is possible is being unable to implement certain features because of the technology we decide to use. To mitigate the risk of having technical challenges, our team is researching the appropriate technological approach to develop the application. Our team also has the risk of having a poor performing application, which would impact the user's experience and satisfaction. In order to lower this risk, our team needs to conduct testing throughout the development to confirm the application is performing appropriately. Conducting user testing before delivering the final product will also ensure the end product will satisfy the client. Establishing clear requirements for the user interface is essential prior to the implementation to ensure the correct layout of the application. Developing a functioning prototype is critical to delivering a finished product, as it allows for the resolution of bugs before finalizing the product. Having the prototype finished before the end of the term is also a prerequisite for incorporating user feedback and addressing potential issues with the prototype.

Testing Plan

In order to test our application, our team will allow members of dKomplex to test the functionality and usability of the application. Since dKomplex will be the end user of the application, it will also help to receive their feedback as testers.

Division of Labor and Responsibilities

- Steven Casey- Planning, Designing, User Interface, Backend Development, Database, Debugging, Testing
- Juan Duarte - Planning, Designing, User Interface, Backend Development, Database, Debugging, Testing
- Stacy Kirchner - Planning, Designing, User Interface, Backend Development, Database, Debugging, Testing
- Keldin Maldonado - Planning, Designing, User Interface, Backend Development, Database, Debugging, Testing
- Oscar Ochoa - Product Owner, Planning, Designing, User Interface, Backend Development, Database, Debugging, Testing

References

- King, S. W., Solomon, G. T., & Cason, K. (1998). Potential capability and organizational transition: An application of Elliott Jaques' Stratified Systems Theory in a family-owned business. Retrieved from https://www.researchgate.net/profile/George-Solomon-2/publication/2433681_Potential_Capability_and_Organizational_Transition_An_Application_of_Elliott_Jaques'_Stratified_Systems_Theory_in_a_Family-Owned_Business/links/0fcfd5100c8b121384000000/Potential-Capability-and-Organizational-Transition-An-Application-of-Elliott-Jaques-Stratified-Systems-Theory-in-a-Family-Owned-Business.pdf
- Orginio - org charts and simulations in the cloud: Ingentis*. Ingentis Softwareentwicklung GmbH. (2023, February 7). <https://www.ingentis.com/products/orginio>