APS1018 History and Philosophy of Engineering – Final Team Project, Summer 2020

Cross-Silo Leadership: breaking down silos to help engineers collaborate across boundaries

Executive Summary

The successful development and creation of a product, especially in the engineering realm, is a highly complex multi-step process, and requires the collective expertise and work of multiple different disciplines. This often takes a large organization divided into tens if not hundreds of departments, each having their own specialist focus and individual objectives. Although departmental objectives are tailored to ultimately meet the common overarching goals of the company, the immediate short-term targets of individual teams inevitably obscure the larger picture. This not only creates a kind of tunnel vision mentality for working level professionals and their leadership alike, but also largely contributes to barriers in collaboration amongst the many different specialty groups. For instance, an employee may shy away from supporting a colleague from another department when this will take away focus from their own work: after all, the only metric they are judged by is the satisfaction of their personal deliverables and not the amount of external support, even if it ultimately helps to meet the bigger picture milestone. This is just one of many possible barriers created between various groups, leading to an organization that becomes siloed – that is, consisting of groups which are separated from each other by a multitude of invisible boundaries, hindering the ability to work as a collective.

To be “siloed” is, by definition, to be isolated. This departmental isolation, regardless of the reasons for it in a particular case, hinders communication and cooperation between the various groups, ultimately slowing down progress towards the organization’s overarching common goal. This is precisely what cross-functional leadership teams want to avoid.

The primary goal of this work is to explore the challenges of cross-silo leadership within an engineering enterprise and provide ideas on how they might be overcome. The historical origins of the concept are explored to better understand it’s early challenges. The progression of cross-silo leadership overtime is analyzed, noting challenges which still remain, including new ones which have arisen due to recent change in culture and society. The current COVID-19 pandemic has exaggerated the existing issues, creating new challenges for company leadership – they are now faced with the physical barriers forced by requirements for remote work.

The objectives of this work are: 1) Define Cross-Silo Leadership; 2) Provide a historical context, overviews and examples of competitive theories and concepts; 3) Describe psychological profile characteristics of a leader and cross functional teams; 4) Analyze industries or market segments where cross-silo leadership may be applicable and effective as a concept, with focus on the engineering sector; 5) Provide recommendations on new capabilities, tools and organizational design principles in the context of remote collaboration to minimize the silo effect and maximize the value for stakeholders.

Our approach includes a retrospective cohort study to understand historical changes and their impact on leadership concepts. Such changes include the technology, socio-behavioural changes in the engineering community and other factors that may be added and investigated during the research.

Our findings demonstrated that a siloed organization is an organization at risk. Silos lead to widespread inefficiency, duplicate work, and generalized employee disenfranchisement at a granular level. Departmental silos become too focused on their own functional area, losing sight of the larger picture and failing to take into account the impact of their work on other departments. Communication and transparency between departments breaks down, resulting in multi-level organizational dysfunction [9]. Engineering culture and progress relies on collaboration and the sharing of new ideas. This makes cross-silo leadership critically important in being able to manage and lead within a complex multi-disciplinary organization. The noted barriers must be effectively broken down to ensure that the organization does not become fragmented and functions as a single whole to ensure successfully reaching its ultimate overarching goals.

This work provides an overview of competitive theories and concepts, a psychological profile of a successful cross-functional leader, and key characteristics required to work across silos to break down barriers. Industries where cross-silo leadership is applicable are discussed, with focus on the engineering sector, noting some of the successes and challenges of its implementation. Finally, recommendations are provided on new capabilities, tools and organizational design principles in the context of remote collaboration to minimize the silo effect and maximize value for the organization and its stakeholders.