In this thesis, we delve into the resource perspective of Process Mining, with a primary focus on grouping resources exhibiting similar behaviours. A significant portion of our research centers on the utilization of Local Process Models (LPMs). These models play a pivotal role in capturing the nuances of resource behaviour, offering a more detailed perspective on their actions and interactions within processes. By leveraging LPMs, we attain a deeper understanding and categorization of resources based on their distinctive behavioural patterns. This facet of our research not only enhances the precision of our methods but also opens up new avenues for enhancing process efficiency and resource allocation, particularly in complex environments like healthcare.

Furthermore, our work introduces a novel metric that redefines how we quantify differences in resource behaviours within Process Mining. This metric is meticulously crafted to provide a comprehensive assessment of variations between them. It serves as a foundational element of our approach, enabling a more refined and insightful analysis of resource behaviour, which significantly contributes to advancements in process optimization and efficiency.

Additionally, we explore a Cell Formation approach that combines resource perspectives, facilitating bi-dimensional clustering to identify distinct subgroups of resources and activities. Our approach gains further enrichment through a comparison with traditional methods of resource modeling and clustering. This analysis encompasses the use of both synthetic and real data.

In summary, this thesis adopts a human-centred approach to Process Mining, highlighting the importance of clustering resources with similar behaviours and utilizing Local Process Models (LPMs) to gain detailed insights. The introduction of a behavioural metric enhances precision, while the adoption of bi-dimensional clustering techniques opens up new avenues for process optimization, particularly in complex domains like healthcare. This research advances the analysis of resource behaviour, ultimately contributing to improved process efficiency and performance.