

## Cluster Lifecycle



*Supporting Manufacturing SMEs in all aspects  
of Digital Transformation and Industry 4.0: A  
New and Innovative Industry Cluster.*

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## Cluster Lifecycle

How clusters grow and decline is vital when exploring data in order to identify clusters when examining different strategies to further develop clusters. In addition to cluster dynamics and cluster formation, it is interesting to note that a cluster has a life cycle pattern that includes approximately seven developments and ageing stages as it evolves and declines. These stages can be described as the following:

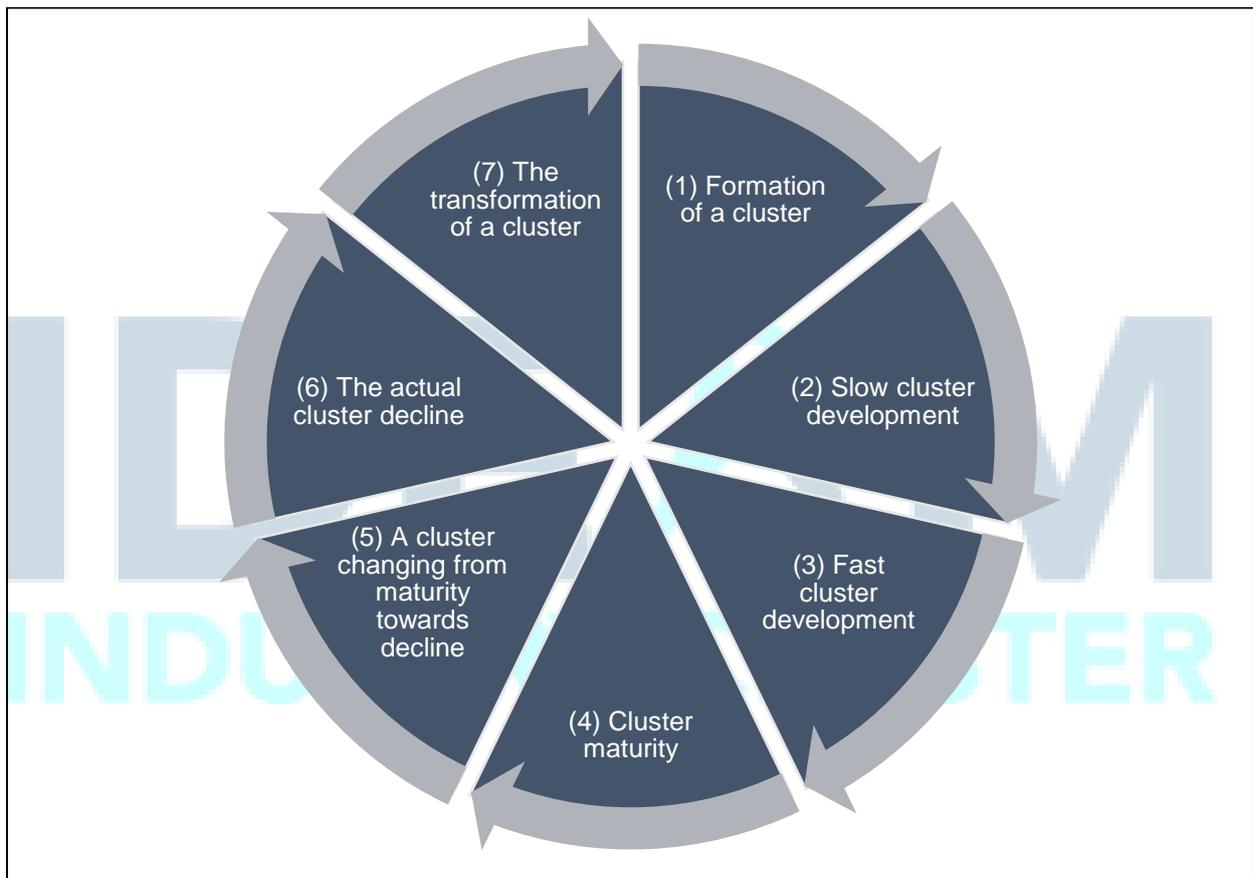
- 1) Formation of a cluster;**
- 2) Slow cluster development;**
- 3) Fast cluster development;**
- 4) Cluster maturity;**
- 5) A cluster changing from maturity towards decline;**
- 6) The actual cluster decline; and finally,**
- 7) The transformation of a cluster, which may or may not occur**

The development phases and the start of the maturity phase are found to be the most competitive phases for the cluster member companies. Once mature, it can be suggested that a cluster needs careful review as it is found to become less competitive due to growing administrative structures and inflexibility.

While the early stages of a cluster life cycle involve specialisation, vertical integration, access to resources, economies of scale and cost-based competitiveness, the later stages will arguably be dependent heavily on R&D (research and development). This is required to spur innovation and technological advancement to create business growth. It can be argued that a cluster is

likely more dynamic in the early stages of the life cycle rather than the latter. As a result, cluster activities which impact the cluster dynamics are as important, if not more important, when the cluster develops and declines over time. It is recommended that it is salient to understand what stage a potential cluster is at in the cluster lifecycle.

**Figure 1: Cluster Lifecycle**



At the end of the development phase and the start of the maturity phase of a cluster lifecycle, these phases are found to be the most competitive and most dynamic for the cluster participants and stakeholders. The main difference between these lifecycle perspectives has been the evolution pattern in terms of the context and support structures that the cluster entails.

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### Appendix

#### Talent & Skills

#### Business & Community Development

#### Research & Development

#### Internationalisation & Funding

### Sponsors

