Visualizing Data for Systemic Approach & Governance Decisions

EXECUTIVE SUMMARY

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Context

This case study examines how a Swedish municipality utilises data and visualisation tools to address educational inequality among students from different socio-economic backgrounds. The municipality employs official statistics on school results, collected by Statistics Sweden and the Swedish National Agency for Education, to identify and monitor students at risk of dropping out of upper secondary school. Additionally, GIS maps are used to visualise the spatial distribution of school performance and socio-economic factors across different areas of the city.

The study is based on the Agile EDU analytical framework, which views data use and datafication as an ecosystem involving various education stakeholders. The framework includes three pillars: data governance; regulations, rights & privacy; and data in use for teaching and learning. This study primarily focuses on data governance while also addressing the other two pillars.

Key findings

1. **Regulations, rights and privacy**. Addressing ethical concerns is important to avoid stigmatisation and reinforcing stereotypes. Relevant data collection and safe integration are necessary for thorough analysis. Using access-controlled login in the visualisation tool is essential for protecting the privacy of data subjects. Fostering a culture of trust, transparency and empowerment is vital in data-driven approaches.
2. **Data in use for teaching and learning**. Analysing existing data has shown that only switching to a school in a less vulnerable area does not necessarily lead to improved academic performance for students from vulnerable areas. The use of GIS maps can help generate hypotheses and questions for further research and exploration. Data and visualisations can be utilised to plan, monitor and evaluate interventions effectively.
3. **Data governance**. The municipality has found that a data-driven strategy, involving the collection, analysis and visualisation of already existing and actionable data on school performance and socio-economic backgrounds at various levels, can effectively identify students in vulnerable areas who are at risk of not achieving eligibility for upper secondary school. The use of GIS maps has helped reveal data and facts that were not visible earlier, identifying patterns and correlations in school performance and socio-economic factors.

Conclusion

The study underscores the significance of employing data and visualisation tools to tackle educational disparities and inform governance decisions at the municipal level. By harnessing data-driven approaches, the municipality can enhance support for students in vulnerable areas, optimise resource distribution, and foster a more equitable educational landscape. Furthermore, it is essential to advance data literacy across all levels of governance within the municipality. This

entails training and empowering personnel to proficiently and ethically collect, analyse, and employ quality-assured and actionable data, ensuring that data-informed decisions are based on precise and comprehensive insights.

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