The Transformative Impact of Technology in the Future of Surveying Academically and Professionally

Zamile Mdaka (South Africa) and Gloria Ruhanya (Zimbabwe)

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SUMMARY

Purpose/Problem:

Land surveying's conventional geometric and technological emphasis is giving way to a more expansive, multidisciplinary paradigm powered by Geographic Information Systems (GIS). In order to handle issues like data integration, deficiencies in spatial abilities, and the changing concept of geomatics, this change calls for updated educational models, professional skill sets, and institutional frameworks. The most recent technological developments must also be incorporated into survey legislation; in nations like Zimbabwe,

the current regulations have not been updated to take these developments into account, which further impedes improvements in the sector.

Significance of the research:

The goal of this research is to help ensure that the surveying profession has a sustainable and morally sound future by tackling the important challenges. The research on the evolution of land surveying and GIS is important because it examines how technological advancements have transformed the field from individual measurement to complex spatial data management, resulting in innovation in education, policy, and interdisciplinary applications

such as historical geography and urban planning. This research lays the groundwork for upgrading academic curricula, developing new professional specializations, and harnessing GIS to address societal concerns, ensuring that the subject stays relevant and appealing to future generations of surveyors and GIS

specialists.

Methodology:

This chapter will outline the research technique, study boundaries, geographical area, research design, target population, sampling design, data collection, data analysis, and ethical considerations. It will also describe the sources of information used to answer the research

question.

Results:

Academically and professionally, Land Surveying and Geographic Information Systems (GIS) fields are becoming increasingly intertwined, with surveyors using GIS technology and GIS professionals building models with precise survey data. Land surveying now encompasses digital data processing and administration, in addition to traditional data collection. This has rendered what used to be acceptable as surveying curricula ineffective. Modernizing surveying courses in tertiary institutions is necessary to keep pace with technological changes. The regulatory bodies for surveying institutions/departments should continue to assess surveying programs in universities to align with technological advancements from the digital revolution.

Conclusion:

In the future, land surveying and GIS will continue to be professionally integrated with information technology, necessitating the acquisition of new skills in digital modeling, analytics, and data management. To address the global shortage of professionals and adapt to the demands of a data-driven world, academia must evolve curricula to encompass a broader spectrum of technical, legal, and planning knowledge. This will foster stronger public- private-academic partnerships. Land surveying's evolution, which began with measuring the earth and drawing borders, has been considerably aided by the incorporation of GIS technology, which has advanced from simple data collecting to complicated data management, analysis, and visualization. By embracing technological developments, surveying and GIS professions will become more appealing to younger generations that demand technology in the workplace, facilitating succession planning and introducing new ideas.