

The link between industrial engineering and the agricultural sector

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The agricultural industry is facing numerous and significant challenges. To remain competitive and sustainable, it needs to find ways to constantly improve.

Industrial engineering can address a number of the challenges faced by the agricultural sector but due to the lack of awareness and understanding of what the discipline is, there have been limits to the extent to which industrial engineering is actually being applied in this industry.

Very few of the industrial engineering graduates in South Africa are employed in the agricultural industry.

Teresa Hattingh, who is a senior lecturer at the School of Industrial Engineering at the North-West University (NWU), has taken it upon herself to change this.

She is educating industrial engineering students about the opportunities that exist within the agricultural sector, and creating awareness within the industry on how industrial engineering can be employed to solve their problems.

A recent study that she conducted found a real need and appetite for the application of industrial engineering in agriculture. However, the agricultural industry is complex and the challenges differ along the value chain and in different types of agricultural industries.

“We are, therefore, developing a framework that will enable stakeholders to best identify how industrial engineering can be deployed to understand, analyse and solve some of the problems currently experienced in the sector. We have also developed a framework that explores the use of information and communication technologies to address specific agricultural needs,” says Hattingh.



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How it all started

Hattingh, together with her final-year and master's-degree students, has been exploring the application of industrial engineering philosophies and approaches in emerging areas for over 10 years. These areas have included mining, primary healthcare, parastatals, primary education and NGOs.

Her current interest in exploring the application of industrial engineering in agriculture was sparked by her move to the NWU in 2019. “I noticed how important agriculture is in the North West, and how most students grew up in farming communities. Students not only have a great amount of agricultural knowledge, but also want to give back to their communities. I realised that it would be great to get the students involved in research work that is a little closer to home.

“I am also constantly inspired and motivated by how passionate my students are about the projects they are working on. This drives me to think of new ways in which we can contribute to this field,” Hattingh concludes that the more research you conduct, the more you find that needs to be done.

South Africa has so much potential, especially in the agricultural sector. The NWU is excited about the opportunities and changes that will be made in the agricultural sector by these industrial engineers.

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