

How AI and data are shaping e-commerce, delivery as a service

By  Emmanuel Kalunga

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The past two years have been immense for e-commerce around the world. In 2020, global e-commerce sales reached \$26.7tn, making up 19% of all retail sales. While that growth may have evened out a little in 2021, there were still [double-digit increases](#) in online sales.



Emmanuel Kalunga, head of data science and business intelligence, OrderIn. Source: Supplied

In South Africa, meanwhile, research [from WorldWideWorx](#) shows that online retail grew 66% in 2020 and was expected to hit R42bn in 2021. It also now accounts for more than double the percentage of total retail sales it did in 2018.

But even as the e-commerce space celebrates these victories, it must look forward. Understanding the trends and innovations driving the sector will be critical for any players looking to survive and thrive going forward. This is particularly true for the delivery as a service (DaaS) segment of the sector.

DaaS is a service-oriented delivery and business processes in line with customer expectations and needs in the on-demand economy. In South Africa, most e-commerce businesses have traditionally owned their delivery services as part of their logistics, and others rely on delivery service providers who are traditional logistic companies and not always equipped for the on-demand economy.



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Through the course of the pandemic, however, South Africans have rapidly grown used to on-demand deliveries, particularly in the fast food and grocery verticals. For the e-commerce players outside of these sectors (and their DaaS

partners) achieving similar delivery standards could represent a major competitive advantage.

If they are to do so, they need to actively invest in using artificial intelligence and data to their advantage.

AI's rapid rise in e-commerce

While it may feel like we've been talking about AI as being on the verge of widespread integration for years now, the truth is it's already playing a significant role in the industry. This year, it's estimated that online retailers will [spend around \\$7.3bn](#) on AI integration.

One exemplary example of the role AI is already playing in e-commerce is something many of us already take for granted: recommendation engines. Traditional retailers have had their strategies to generate sales and promote new arrivals in their stores. They have perfected the art of product placement and shelf layout.

When customers walk into stores or shopping centers to fill up their basket, they are presented with other products that could be complementary to what they are looking for. Some items are placed so as to generate impulse purchases (parents with kids will know this).

These techniques do not work in e-commerce where the customer could land directly on the desired items (using search functionalities). Recommendation engines are the replacement and maybe an improvement to the whole shopping centre and in-person store experience.

As is the case in all retail and supply chains, e-commerce will also rely on adequate forecasting to match demand and supply in stores and warehouses.

And finally, as the competition grows in the sector, AI and data are critical for good decision making. [Studies have shown](#) that with the right data, even simple probabilistic models outperform human experts in both estimation and forecasting.



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Making DaaS viable

But AI and data aren't just crucial to consumer-facing e-commerce. They will also be incredibly important to the future of DaaS. In its current state, DaaS is a very low-margin business model. Data and AI will be critical in increasing DaaS viability and profitability. AI and data will help cut the cost of delivery by making delivery more efficient.

Perfectly matching delivery capacity and customer needs is fundamental to optimising the use of resources in DaaS and achieving efficient deliveries. This will unlock better prices and reliable services for the consumers and high margins for the service providers, including drivers. For the foreseeable future, AI will be the difference-maker.

Looking forward

AI and data are also opening up a host of new avenues and opportunities in the e-commerce and DaaS spaces. Dark stores, for example, will combine the good side of stores and warehouses to provide proximity and peaking automation. E-commerce is also increasingly available on many “unexpected” channels, such as Instagram and WhatsApp, which have integrated payments.

Perhaps most importantly, however, they may eventually allow for automation in some parts of the delivery chain, making for a better customer experience and ensuring that e-commerce and DaaS operators are as sustainable as possible.

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