Article title: Computer vision for supply chain management optimization

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Computer vision for supply chain management optimization

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Executive Summary

The introduction of computer vision in the field of supply chain management has been of great importance in the field of warehouse management. The process through which an appropriate supply chain is executed has evolved from manual labour force up to the introduction of technology in the same field which has led to innovation in processes like, administration and logistics. This research contains a vivid description of computer vision in supply chain management. The initial introduction depicts more about the specific contents of both supply chain management as well as computer vision. While followed by the introduction, the next segment describes how computer vision in supply chain management has been of great input and the probable positive changes, which have been inculcated, since the introduction of computer vision in supply chain management. In the specific field of warehousing and accurate planning the role of computer vision has been commendable. The research also mentions the working mechanism of computer vision in the process of supply chain management. This is followed by how efficiently the management is controlled with the help of computer vision and a proper conclusion that depicts computer vision to be a blessing in disguise for organizations who want to declutter and make their supply chain management all the more effective.

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Introduction

Supply chain management is considered to be one of the most vital tasks to be performed in an organization. It is the process through which an accurate and proper supply of goods is ensured, along with proper management of the processes involved. Earlier, the usage of manual labor in this field was widely popular and was considered the optimum solution. With time as more technology is being developed, organizations are finding ways the help of which they can inculcate such into their systems (Dash et al., 2019). . It is already a known fact that science and technology are slowly taking over human labor and for all the right reasons. From various innovations in the field of supply chain management, the improvements have gone to the extent where technology has completely outrun manual labor. The concept of computer vision is a part of artificial intelligence which allows computers to identify and differentiate things based on image data. Hence the introduction of computer vision and artificial intelligence in supply chain management is expected to curb the problems in this process to a great extent (Dufresne-Camaro, Chevalier and Ahmed 2020). The improvements in this field, needless to say, have been exemplary. This has enhanced the overall asset management and warehousing of an enterprise.

Computer Vision in Supply chain management

Since its initiation supply chain management has always been a process that was manually done which came with its own set of pros and cons. With modern technology taking over manual labor, the scenario is likewise in the case of supply chain management. The need for computerized vision in supply chain management has become an essential part of the entire concept of supply chain management (Cavallo et al., 2019). Computer vision loosely means having a human eye requirement for or a vision that is similar to that of the human eye, the same can be achieved with the help of artificial intelligence for AI-powered digital eyes. This

would enable the concept of supply chain management to be more accurate and efficient and accomplish work easily without having to investigate from time to time.

Working Mechanism of Computer Vision

Computer vision is powered by artificial intelligence that allows them to interpret data that are visible in nature and the accurate and efficient in their work process. Computer vision allows proper image recognition and detection with the help of which supply chain management is done efficiently (Chandra et al., 2020). To begin with, computer vision is developed with the help of visual sensors that understands the product that is being dealt with so that it efficiently can eliminate mistakes. As usual, sensors are incorporated with the help of artificial intelligence, computer vision can within a very short period of time detect any rotten or damaged product with higher accuracy in comparison to that of human labor and also be useful in the process of keeping tracks regarding the production and the supply (Ulhaq et al., 2020). As computer vision deploys the use of artificial intelligence in the process like supply chain management the accuracy is well maintained which prevents your loss of both products as well as financial turbulence of enterprises that are part of the industry. It is needless to say that the use of artificial intelligence in the process of supply chain management is in richest restricted to detect and keep track of products with also is widely used for quality control, warehouse management, inventory tracking, and various other processes that are involved to within the concept of supply chain management (Villalba-Diez et al., 2019). The use of computer vision has been so extensive over the last few years that not just factories but also construction sides and hospitals are becoming all the more acquainted with the concept of computer vision in supply chain management and welcoming such into their working procedure as well.

Management Control

As the name suggests the concept of warehouse management is a task that requires special precision to be accomplished without any fault or mistakes. Uses of artificial intelligence with the help of deep learning technology and various other computer software, which together makes up the entire idea about computer vision can be extensively used in warehouse management to a great extent (Jorquera-Chavez et al., 2019). Being one of the most important areas of supply chain management warehouse management requires attention to detail, something that can easily be maintained by computer vision to overcome various accuracy and efficiency in the process of warehouse management. Warehouse management includes processes like keeping track of the total quantity of material, updating about the location from where it is coming and to where it is to be delivered (Onwude et al., 2020). Any warehouse experiences various trucks that come in and out throughout the day and keeping track of the shipment is an essential part of warehouse management. Computer vision enables that no such shipment is missed and proper delivery of a product is done within time so that accuracy is maintained of the enterprise. Artificial intelligence-enabled in computer vision the chances of mistake is completely eradicated in the process of change management. It is similar in the case of restocking as well. With the help of artificial intelligence shelves which are on display can easily be restocked as the process of organizing and restocking calls for calls in mistakes that can be done by manual labor (Ho et al., 2019). To completely eradicate such a problem computer vision is developed to organize and strategize supply chain management in the most efficient manner so that the entire process can be executed with precision and it also helps enterprises across the globe to experienced stability e within their business.

Conclusion

The introduction of artificial intelligence in the spectrum of supply chain management has been a blessing in disguise. It is needless to say that with a technology-driven innovation like computer vision the concepts and management techniques that have been involved in the processes like supply management has improved exponentially. Since the innovation of computer vision, the work procedure has evolved to a great extent leading to an efficient management technique that allows no space for mistakes whatsoever. Be it in the field of asset management or warehouse management the introduction of computer vision has been consistently on the higher side leading to more organizations adopting it in their processes. The simple way computer vision stores data of images and easily eradicates problems related to such has been praiseworthy. Therefore, needless to say, computer vision is here to improvise the systems of supply chain management to provide a hassle-free process to be executed.

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