# YOU THOUGHT YOU KNEW ALL THERE WAS TO KNOW ABOUT LABOR MANAGEMENT...

## BUT WHAT IF YOU'RE WRONG?



People have been talking about labor management for years! Often embedded in the WMS, its features allow better management of human and material resources, plan operators' work by comparing it with the workload generated by customer orders to be shipped, pending orders and units to be received from suppliers for all logistics platform activities.

**Its features seem relevant in an age when e-commerce rules, and yet few businesses use it. This observation is what led Savoye to find out about the flaws in the labor management solutions on the market and to try to remedy them.**

# LABOR MANAGEMENT:
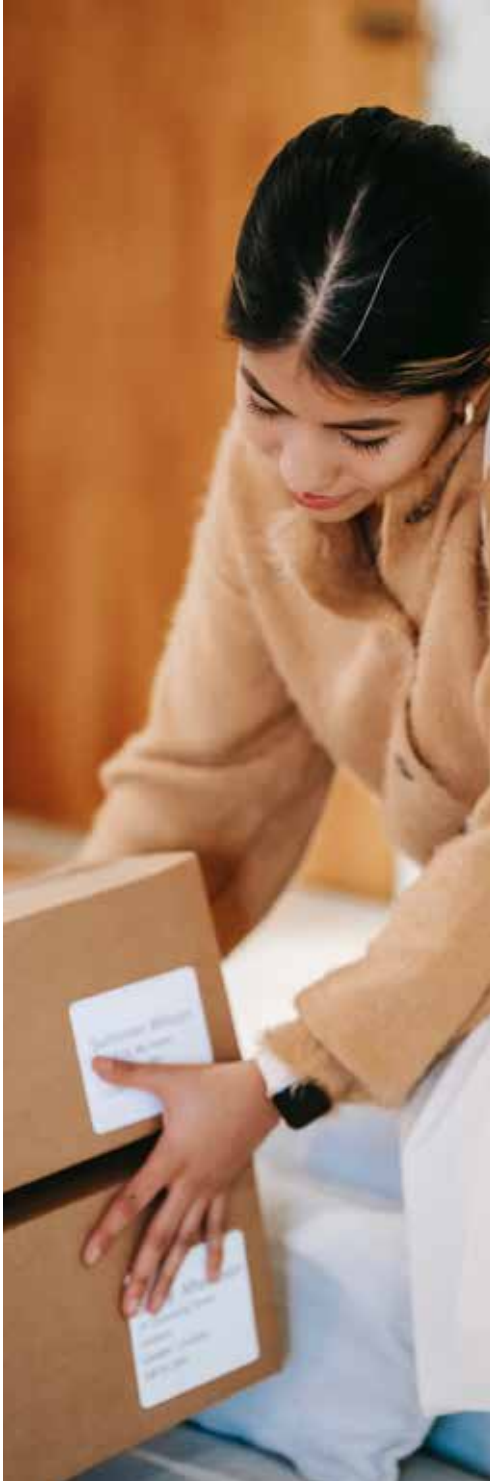
With the rise of e-commerce, the proliferation of marketing events, and the growing number of sales channels, the supply chain needs to become increasingly agile and responsive.

Internet orders can be placed at any time and need to be prepared quickly (next day, same day, or sometimes in just a few hours). To organize its activity, the logistics platform counts on its WMS to sequence the priorities.

But the WMS no longer has enough visibility on the order volumes, even at the start of the day. This complicates the work of operators, and significantly limits their ability to anticipate and react to surges in activity. It would not be realistic to think that ERP systems could overcome this difficulty by supplying the WMS with its own forecasts. These features, when they exist at all are rarely deployed, and are not always accurate, because they are often based on the same statistical model. This means that only a true labor management solution can provide the features an operator needs in order to cope with surges in activity. But it's clear that even this does not completely succeed. Poor visibility of the load more than a few hours ahead, inaccurate tracking of the activity, inability to measure the productivity of a process not controlled by the WMS...there's a long list of challenges!

## BUT WHEN IT COMES DOWN TO IT, WHAT EXACTLY IS WRONG WITH LABOR MANAGEMENT?

We can see that labor management solutions are highly relevant at a time when e-commerce is growing continuously, so why are so few companies buying and deploying them?

Mainly because most labor management solutions are riddled with flaws. An in-depth analysis of the solutions currently on the market led us to this conclusion.

**The five flaws of labor management:**

◆ **It is short-sighted:** without purchase files and without customer orders to prepare, a classic labor management solution will not provide any load calculations. As already discussed, the lead time at which the WMS knows the real upcoming loads has become considerably shorter. Labor management now only provides visibility on the day; it is not capable of long-term foresight.

**SHORT-SIGHTED**

◆ **It is input-hungry:**to produce a usable result, the labor management solutions on the market often require you to input the complete schedule of all the operators, with their names. This obliges the manager to perform the tiresome task of duplicating an exhaustive HR timetable on a tool that is unsuitable for that purpose. But although it is important to know how many operators will be available to carry out e-commerce packing, for example, the manager would not necessarily know their names, because only the number of operators and their skills are important

**INPUT-HUNGRY**

◆ **It is self-centered:** it cannot analyze the performance of any processes that are not controlled by the WMS. In a warehouse, however, many of the tasks carried out every day are not tracked by the information system: pallet inspection, and Value Added Services such as placing items on hangers or in blister packs. These actions deserve to be tracked, at least, if not controlled; and above all, they should be assigned a value in terms of productivity.

**SELF-CENTERED**

◆ **It is imprecise:** here we can see a difference in vision between the supplier of the solution and the operator. The operator manages their activity based on KPIs and pre-established targets. They often expect the solution to provide them directly with that exact result. We find, however, that its reports lack granularity. Overall productivity for a task can be calculated, but this information cannot be fine-tuned according to the structure of the platform, the sketch of the order to be processed, or the product families, for example.

**IMPRECISE**

◆ **It gives no ROI:** in view of all these flaws, the conversion rate of a labor management project is very low. Simply because the ROI no longer appears easily.

**NO ROI**

The need to solve these problems is what guided Savoye's work on labor management.

## LABOR MANAGEMENT HAS CHANGED A LOT SINCE MEETING AI!

With this in mind, Savoye's teams set about designing a next-generation labor management module augmented by artificial intelligence and integrated into the ODATiO WMS/TMS solution. The central idea of this work is that only a forecasting system based on machine learning and interfaced with the WMS can provide a clear and relevant vision of activity in the coming days.

**The aim? To restore full power to this tool by basing it on stored warehouse data and machine learning algorithms, so that forecasts can be produced with the help of real-life business cases.**

## EXPERT QUOTE

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ERPs mainly use statistical techniques for their forecasting. The advent of machine learning is gradually making this approach obsolete. Therefore, our models are based on stored warehouse data for them to produce their own forecasts, using real-life business cases. " Marwane Bouznif, Machine Learning and Optimization Engineer at Savoye.

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**Marwane Bouznif.**

**How does this work in practice?** The principle is simple, and it works in three stages:

◆ The external IS (ERP and/or WMS) supplies all the real measurements it has. Fed with extended (number of lines) and precise (number of columns) data, machine learning has enough history to begin to operate (at least 15 months).

- By sequential learning, the machine learning system starts to propose forecasts on request, with accuracy that increases with the volume of history provided. The more data, the better the results. It can provide 30-day forecasts (i.e., looking ahead 30 days from today).

- The machine learning system returns the results segmented according to the requested breakdown criteria to the labor management system (e.g., forecast for task T1 according to criteria C1 and C2). An API between the two systems can query the machine learning system for a 30-day forecast on a specific activity with the desired breakdown criteria.

## DID YOU KNOW?

**AI: WHAT EXACTLY IS IT?**

Artificial intelligence is the ultimate catch-all term, and is used to mean many things. Whenever an algorithm seeks to optimize a result or reach a decision based on data, we can consider that artificial intelligence is being deployed.

Based on this definition, it is fair to say that Savoye's software has been using AI for many years, and we can point to concrete use cases, such as pre-packaging, automatic WCS/WES launching, the definition of a picking route by a WMS, or the optimization of rounds by a TMS.

## MACHINE LEARNING: IDEAL FOR EFFICIENT LABOR MANAGEMENT

**WHAT DIFFERENCE DOES THIS MAKE?**

In addition to the benefits of a solution that is fully configurable to suit the business context, you can also customize the KPI reports. This means that productivity can be analyzed per sector, per cell, per delivery destination, and even per sales channel.

## WITH WHAT RESULTS?

After performing POCs for three retail logistics businesses over almost five years, we have been able to achieve a discrepancy of 5 to 10% between our calculations and actual applications." Grégory Lecaignard, Software Product Manager at Savoye. The benefits are: greater visibility on the business as a whole, better anticipation of operational loads, and greater profitability.

## A COMPLETE FUNCTIONAL REDEFINITION

To avoid the sin of greed, it was decided that "non-name-based" resources should be used in the calculations. No need to draw up a schedule for each person; just specify how many FTEs are there to carry out a given task in a given time slot. For each FTE, you can also specify the experience profile (fully configurable), to fine-tune the capacity calculations even more. These are the essential data that produce a reliable result quickly and flexibly.

To solve the problem of imprecision and prevent a discrepancy between the operator's goal and what labor management was able to calculate, Savoye wanted to make its solution fully configurable. That is why the load calculations (and the load forecast calculations) can be broken down in any way you wish. If the expected productivity is 110 picks/hour, but this is 25% lower in a particular cell that is less accessible or 10% higher in a particular sales channel because the process is less demanding, this can be obtained. Concretely, the result can be fine-tuned based on any piece of information concerning the task: departure area of an internal movement, type of an HU to be received. The user can do this at any time and without any particular difficulty.

Operations not controlled by the WMS should nevertheless count towards productivity. That is why, and also to counteract the selfish tendency of labor management solutions, that a special menu gives operators the opportunity to declare an uncontrolled activity and, at any time, to specify the number of work units processed thanks to a simple, non-invasive process: number of pallets inspected this afternoon, number of blister packs used in VAS yesterday, etc.

## CONCLUSION

As you can see, machine learning is the partner that labor management was waiting for to unleash its full potential and finally allow companies to make the most of its many advantages. No more putting up with the unpredictable ups and downs: it's your turn to take control. Redefined in this way, and operating at full capability, labor management finally generates an ROI and becomes your platform's secret weapon for performance and productivity.

## SAVOYE:

## BEST IN CLASS AUTOMATION

## FOR YOUR LOGISTICS

## AND SUPPLY CHAIN NEEDS

### ADVANCED TECHNOLOGIES

**Order preparation of light loads**
X-PTS Goods-to-Person solution, smart conveyors, high-speed sorting systems, robotics

**Automation of shipping packaging**
JIVARO, e-JIVARO, PAC 600, lidding, cardboard wedging

**Automated storage of heavy loads**
MAGMATIC

### ADVANCED SOFTWARE

**Warehouse management and flows control**
OMS, WMS, WCS, TMS, EDI