

SUNE LOHSES

200

ERP

QUESTIONS

THE MOST IMPORTANT
THINGS TO THINK ABOUT
WHEN CONSIDERING
MICROSOFT DYNAMICS 365

**BUSINESS
CENTRAL**



SUNE LOHSES
200
ERP
QUESTIONS

SUNE LOHSE

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CONTENTS

OVERVIEW

Your ERP Project **8**

Your ERP Strategy **23**

Overview of Your Processes **40**

FUNCTIONS

Sales **48**

Purchasing and Planning **93**

Inventory **134**

Production **176**

Finance **199**

Technology **225**



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FOREWORD

It used to be that you would write a requirement specification or get an independent consultant to specify the requirements for your solution – and then you would hire a vendor to build all your specific requirements into an ERP solution.

That is not how it is done nowadays.

Nowadays, most companies want to avoid customizations, making it more important to start with a solution – and try to make the best possible use of its capabilities.

This can easily become a to-and-from aimed at finding the best match between the capabilities of the solution and your needs.

The challenge is that you are unlikely to gain a 100% understanding of your needs until you are some way into your journey.

Or not even then.

It is difficult to specify your needs in advance, because doing so requires a good knowledge of the solution you are looking at.

You can easily end up setting requirements for something that is no challenge at all for the solution – while forgetting to mention something that is crucial to you, because you didn't realize that it would be a challenge.

But nor can you just choose a solution blindly, without mapping out your needs.

Choosing an ERP solution is no easy task.

And that brings me to the purpose of this book.

I want to highlight what are currently the most important things to decide on before choosing an ERP system – especially if that system is Microsoft Dynamics 365 Business Central.

Decades of experience with ERP projects has given me a good grasp of the things that are typically crucial in an ERP solution, and I have summarized that understanding in this book.

There are a raft of questions you should ask yourself (and answer) before you speak to an ERP vendor.

The book has been written with Microsoft Dynamics 365 Business Central in mind and is clearly most relevant to that system, but it may also provide inspiration for your requirements specification for a different ERP system.

Your needs are the same, whatever the system.

HOW TO USE THE BOOK

This book is a review of all the needs that you should map when looking at a new ERP system, particularly if that system is Dynamics 365 Business Central.

The book consists of nine chapters:

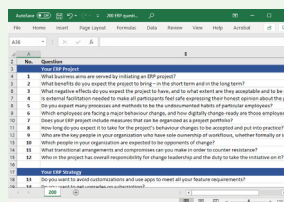
1. Your ERP Project
2. Your ERP Strategy
3. Overview of Your Processes
4. Sales
5. Purchasing
6. Inventory
7. Production
8. Finance
9. Technology

Along the way, I will challenge your company's needs and ask questions:

089

Do you want to use ABC codes to structure the data basis of planning?

You can answer the questions in the accompanying Excel spreadsheet. Download it at abakion.com/excel. When you have answered all the questions, you will be good and ready to speak to your ERP vendor.



I won't list all the things that present no challenges for your ERP. There is no reason to. I will go through the things that are challenges, the ones you must be sure to address.

Enjoy!



YOUR ERP STRATEGY

STANDARD OR CUSTOM?

You are probably used to having the old Dynamics NAV customized to your company's needs – and you are probably also used to upgrades turning into major migration projects undertaken out of necessity, not because they yield any immediate business benefit.

With Microsoft's launch of Dynamics 365 Business Central, the customization and upgrade paradigm has changed completely, and you need to consider an ERP strategy different to the traditional one.

Until now, when you bought customizations for Dynamics NAV, you committed yourself to updating those customizations when upgrading to a new version. That is expensive, as anyone who has worked with Dynamics NAV over the years will know.

At the same time, very few companies can make do with Microsoft's standard solution – as is clearly shown by all the requirements in this book. Of course, this creates a need for customizations.

With Business Central, Microsoft has opened an app store where you can purchase functionality that has been tested and approved by Microsoft. You can actually install these apps in Business Central yourself. It's as easy as that.

This means that the solution is now so mature that many companies can meet all their needs with the standard solution plus apps from Microsoft AppSource – with no need to customize the solution.

Do you want to avoid customizations and use apps to meet all your feature requirements?

013

Everything on subscription

This means that there are suppliers to take on the commitment to upgrade these apps to new versions – without you having to open your wallet.

So, you pay for everything through a subscription, and there are no financial surprises along the way.

That's the advantage of avoiding customizations. And yes – it is certainly feasible.

The ERP industry just needs to get used to the idea that it is feasible for customers to have their needs met without custom-developed modifications.

I have been involved in proving that even quite big manufacturing companies – with warehouse management and barcode solutions etc. in the warehouse – can certainly meet their ERP needs with the standard solutions on the market today.

I have been involved in projects at companies that have a fortune over the years on customizing their old Dynamics NAV – and that are running on a 100% customization-free solution today.

They pay a subscription charge, and their solution is upgraded to the latest version on an ongoing basis.

014

Do you want to get upgrades on subscription?

My next suggestion is to buy support on subscription, too. If your subscription is charged per user, per month, your users can phone up and get help to their hearts' content.

It is really great that users don't need to hold back and don't need to feel it is costing a fortune every time they contact the ERP supplier.

The advantage is that your ERP spend becomes a predictable cost that you can budget for without surprises. It is usually cheaper to choose a support subscription for approved superusers only, but in some cases, it makes sense to buy a support subscription for all users.

015

Do you want to get support on subscription (for superusers)?

The trend is towards subscriptions in all possible areas. This reality has of course reached the ERP industry, too – and companies can certainly see advantages to it.

Who are the experts?

However, the ERP industry is still living in a paradigm where the experts are the best developers – the ones most familiar with the code and the table structure, the ones who are best at debugging – these are the consultants most in demand among ERP suppliers.

The reality is changing, though, to one where the experts are the people who have the broadest knowledge of the ERP functionality and are best able to advise the customer on the basis of needs, and to build bridges between business needs and IT using standard components. It is this type of consultant who will be able to advise the customer to put together a solution using apps.

Would you rather have a project team made up of deep developers or broad business consultants?

016

Customizations are still possible

One of the biggest misunderstandings is many people's belief that only the standard solution can be used on the cloud version of Business Central.

The cloud solution is just about as customizable as the on-premise version. Whether I think it's a good idea is another question, but you are not locked in.

There are of course differences compared with older versions of Dynamics NAV. It used to be possible to patch the code directly in the NAV core, but development now has to be implemented as extensions, i.e. pieces of code added to the solution, rather than as patches.

My view, though, is that you should limit the amount of custom development. Even though it takes the form of additions, it will be your own responsibility to upgrade the functionality every time Microsoft rolls out a new version.

Are there feature areas where you envisage needing custom-developed additions in the form of extensions?

017

Expand functionality with apps

More and more things can be achieved using apps from Microsoft AppSource. Technically speaking, these too are extensions, but the big difference is that, when you purchase an app, responsibility for ongoing upgrades lies with Microsoft and the maker of the app.

If you currently use Dynamics NAV, check whether the add-on solutions you use are available as apps on AppSource. If not, you will need to find a suitable substitute.

018

Are the add-on solutions you use in Dynamics NAV available as apps on Microsoft AppSource?

If you have ambitions to expand the range of features to be covered by the ERP solution, I would again advise you to look on AppSource for existing solutions. There is no reason to develop functionality single-handedly if a solution already exists.

You can often test the app free of charge in a test environment for a month, so as to assure yourself that it has the requisite functionality.

If your supplier comes to you and proposes a lot of custom development, I recommend asking them if they have checked whether there is an app that will do the job.

019

Are there new feature areas that your ERP solution needs to support, where apps from AppSource may be able to do the job?

THE CLOUD

Cloud, hosted or on-premise? This choice still exists, but for ordinary medium-sized companies it is now no longer a choice, whether the ERP system is Dynamics 365 Business Central or something else.

Quite fundamentally, companies are choosing to move to the cloud in order to be 'connected' and change with the times. I am keeping all options open, because you don't know what you will do or want tomorrow.



Sales Configuration

SALES CONFIGURATION

It is now time to talk about sales orders. Most people have a good grasp of the basics, so I will start at the complicated end of things: configuration.

Configuration is essentially about managing the ways in which configurable products can be put together according to customers' wishes.

These may well be relatively low-complexity products, but with some variables that the customer can choose. The challenge is that this can quickly result in thousands or millions of possible combinations, which you do not of course want to set up as separate item numbers in the ERP system.

Configuration has gradually crept into many different areas, whether it is buying a car, a bed, a wood-burning stove or something else. As a customer at the car dealership, you choose the colour, engine, seat covers, equipment packages and so on.

There are two things you want to achieve with configuration, and in practice there is a difficult trade-off between these goals:

- You want to create a good customer experience where the customer is guided through the options;
- You want easy management of the configurations in the ERP system, so you don't drown in item numbers and bills of material.

This is a difficult thing to build in ERP. There are some add-ons that support configuration, and you should choose one of them if you need configuration, because it is a lot of work to build your own.

Do you sell items that are configured for the individual customer?

031

Configuration makes a number of demands on your ERP solution.

LOGICAL, VALID CHOICES

It must be easy for the customer to make the right choices when configuring the item, and naturally the ERP system must ensure that the customer makes only valid selections that you can actually deliver.

If I choose the small equipment package for my new car, perhaps I won't then be able to choose the leather upholstery.

All the dependencies between options must be set up in the ERP system. And what would be really great would be if the configurator could show you as you go along what effect your choices will have on price and delivery.

032

Should the configurator manage dependences, offering only valid choices?

NO FIXED ORDER

The experience must be user-friendly, and the customer should not be forced to make decisions in a particular order.

I want to start by deciding to have leather upholstery in the car, and I will find it irritating if I am not allowed to choose it first - that way, I am forced to choose a car, and an equipment package, and an engine, and a colour, and then I find out that, given the choices I've made, I can't choose leather upholstery! Aargh!

The ERP system should therefore support these decisions being made in arbitrary order. This throws up certain challenges as regards managing the dependencies between selections – and the ERP system must handle this whole structure proficiently.

033

Should the configurator allow decisions to be made in any chosen order?

When I opt for leather upholstery in question 12, the system has to know which options I am thereby restricting myself to in the previous 11 questions – and of course in all the subsequent ones.

My choices may also mean that there are no longer any decisions to be made on some of the questions, and the configurator should therefore not ask me about them, but just inform me.

Should the configurator automate choices when only one possibility remains?

034

I had an experience at a kitchen shop when I wanted to buy a particular drawer because it had the particular dimensions I needed. First, I had to choose a cupboard, although I didn't actually feel that I needed a cupboard. I didn't care about the cupboard or the next five questions that I had to decide on before I could choose the cupboard.

Somewhat irritated, I made a whole lot of choices about cupboards, feet, colours etc., only to be told that they didn't have the sort of cupboard I wanted – that is, the cupboard, feet, colours etc. that I had chosen. Sigh!

It ought to be OK that the customer doesn't care about some of the configuration questions. Can you choose for the customer if they really have no preference?

Should the configurator have default settings for when the customer cannot decide?

035

The sequence of questions, rules on what must be answered first – these things have a big impact on the user experience on your website or with your order-taking procedure.

Think about whether your online shop should let you start by choosing a colour, say, and then present you with a large number of options spanning the item categories. Or must I first decide whether I am buying a car or a football, before I can choose the colour?



Planning

PLANNING

Big companies using big ERP systems are often living in a different reality to small and medium-sized companies.

Big companies have a (relatively) easier time forecasting their sales. If you have been selling sausages, and lots of it, for 50 years, you have a good chance of forecasting your sales, so you can freeze your production volume early, making planning easier (or indeed possible).

If you have a highly complex production with many, perhaps expensive, components or a long production time, you need to freeze the production forecast. A car factory must decide early on how many cars to produce. Otherwise, production cannot be planned at all. And you can't just decide, halfway through the month, that half the supermini production is to be SUVs instead.

That is why the big ERP systems work on the assumption that your demand will be frozen in relatively good time, because you won't be able to base purchase planning on it otherwise.

For most small and medium-sized companies, however, the reality is different. They have to be very agile. ERP systems for small and medium-sized companies are therefore often full of customizations to address the need for flexibility.

When your customer suddenly decides that the shipment in 2 weeks' time has to be orange instead of black, you move heaven and earth at the factory, do some custom spray-painting and rush the item through the door at the last moment – and your customer thinks you are fantastic.

This is what many small and medium-sized companies have to do to stay competitive – and the ERP system must support it.

Agility has become incredibly important in the planning of production and purchasing. Most MRP solutions in ERP systems are simply not geared up to this level of flexibility. They choke and spew out illogical amendment lines at the user if the demands change dramatically.

If you have high withdrawal predictability and relatively few items, MRP planning is easier to use.

If you have many items and often create new ones, or new configurations or combinations, if it is hard for you to predict withdrawal and if customer demands often change, traditional MRP will often fall short.

You should ask yourself what level of flexibility you need – and how much you can put up with having to manage manually.

Do you want to use MRP to plan purchasing?

075

TIED-UP CAPITAL VS SERVICE LEVEL

The conflict between capital tied up in inventory and service level is a planning classic.

On the one hand, you want a high level of service. That means that you want to be able to deliver an item as quickly as possible when the customer requests it. If you can fulfil all the customer's wishes, you have a service level of 100%.

You just need to ensure that you have all sales items in stock in such infinitely large quantities that you never run out, no matter how much your customers order.

Saying that pretty much calls for a smiley, doesn't it?

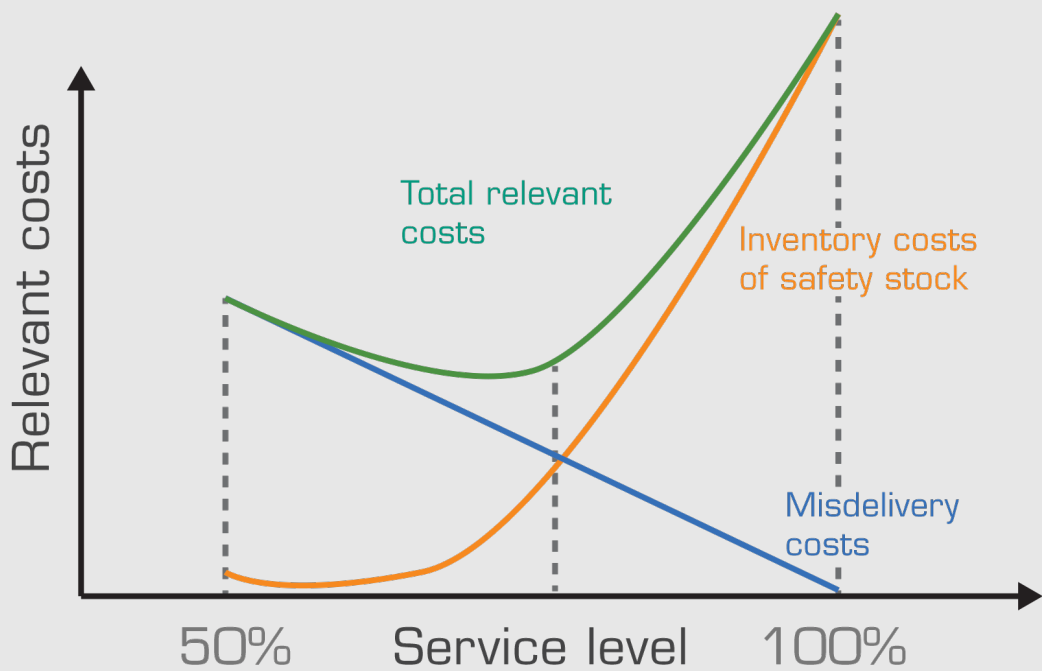
The challenge is that, on the other hand, you also want low tied-up capital. You don't want too much capital tied up in inventory, and you don't want to risk getting stuck with obsolete items.

The Head of Sales wants a high service level to make customers happy, and he is seldom judged on the tied-up capital.

The Head of Finance wants low tied-up capital, and he is not judged on the service level.

And **the Planner** has the thankless task of finding the golden mean.

TIED-UP CAPITAL VS SERVICE LEVEL



Inventory costs

A common rule of thumb is that an inventory costs 20-25%. If you have 10 million tied up in inventory, it may cost you 2 million per year in inventory costs. This is why tied-up capital is incredibly important to your finances.

Inventory costs can vary greatly from company to company, so perhaps you should work out what the figure is in your case.

You needn't go into great detail, even if the costs vary between items, inventory sites, packs etc. Take the average. But be sure to take financing, opportunity costs, insurance, tax, salaries, warehouse operating costs, stock-taking, wastage, damaged goods, obsolete goods etc. into account.

What are your inventory costs?

076

This is crucial in determining how closely you should focus on tied-up capital.

The dream of zero tied-up capital

Trading companies that carry no stock at all have it nice and easy when it comes to the conflict between tied-up capital and service level.

If you have no inventory, your tied-up capital will of course be zero. When customers order items, you just pass the order on along the supply chain.

That means no rent, heating, electricity, warehouse personnel, mishandlings or write-offs for obsolete stock.

If you have a huge amount tied up in inventory, then you will of course have financing costs, too – or opportunity costs from the huge investment you could have made.

Very few companies with item flow can carry on their business without tying up capital. If you can just reduce it from 30 to 25 million, though, that's 1.25 million going towards your operating profit. This is why both inventory costs and tied-up capital are incredibly important.

The dream of a high service level

The other side of the coin, though, is that you also want a high service level.

If we are talking about items that sell at a totally steady, constant withdraw rate and are sold just in time when you can get them in, it is nice and easy.

In this case, you can use a traditional Wilson formula to calculate the optimal order size, and everything will be fine. Unfortunately, the world seldom works that way.

It is often a very difficult exercise to forecast on the sales side which items should be bought in so as to cover all demands to a T without building up too much inventory.

And what are the consequences for the company's reputation if you can't deliver? Will the customer choose your competitor, and take his business there again next time?



How do you prioritize service level as against tied-up capital?

Making ends meet

There are many aspects to be taken into account when balancing service level against tied-up capital.

For example, if you trade or manufacture abroad and accept a long lead time so as to obtain a low price, you have to order well in advance and carry a large inventory if you want to be sure of meeting customers' wishes.

You have to be very good at predicting customers' future orders.

Your customers are sitting across the table from you, expecting a delivery time of a few days. This is the reality for a great many companies.

I know many companies that have a lead time of 3-6 months from production facilities in the East, but whose customers expect them to be able to pack and dispatch orders within 24 hours.

This is a major planning challenge. It is practically a conflict. Demand forecasting and reorder planning are important disciplines in this instance.

It gets even harder when the sales department says that the orange variant will be a hit in the Christmas trade (or so they expect). They will ramp up the marketing, and you have to ensure that there is sufficient stock without getting lumbered with any. But what if orange isn't a hit after all?

The Head of Finance wants to purchase cautiously so as not to have unsold stock, and the Head of Sales wants to order plenty so as not to run out in the middle of the Christmas trade.

In principle, neither of them is right – or they both are.

If you only sell 10% of the inventory and cannot shift the rest after Christmas, that is more expensive than being unable to deliver. Running out means lost turnover, of course, and perhaps lost customers. Which is worse?

This is a traditional conflict, and it is what planning, as a professional discipline, is all about. It is incredibly important for the company's finances, its image and its cooperation agreements alike.

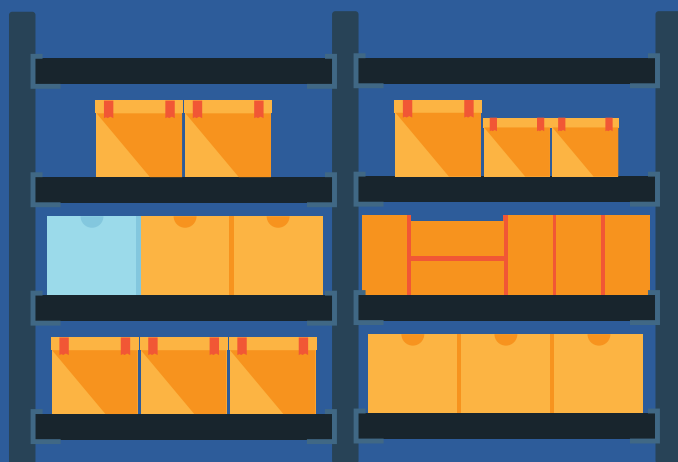
It follows that purchase planning needs to be exceptionally well supported in your ERP system.

Which occur most frequently: that you cannot deliver, that you have unsold stock, that you lose orders due to long lead times?

078

What are your biggest planning challenges?
Do Sales, Purchasing and Finance agree on them?

057



Inventory Management

INVENTORY MANAGEMENT

INTRODUCTION

The impressive thing about adopting a Warehouse Management solution is how quickly everything falls into place.

I regularly meet companies that want to introduce a warehouse solution and that basically have a fixed bin warehouse, so they know in advance that the screws are over there, and the O-rings are on the shelf behind them.

The thought of switching over to a chaos inventory gives many people pause, but, once they get going, they get used to it very quickly.

In the old days, I had to keep everybody's phone number in my head, too. Now, I don't even know my own children's numbers, because the phone keeps track of them for me. It is the same with a warehouse solution.

Once you get going with it, the system keeps track of everything, and it is actually really neat.

We just need to sort out the terminology, because inventory management means several things in the ERP world.

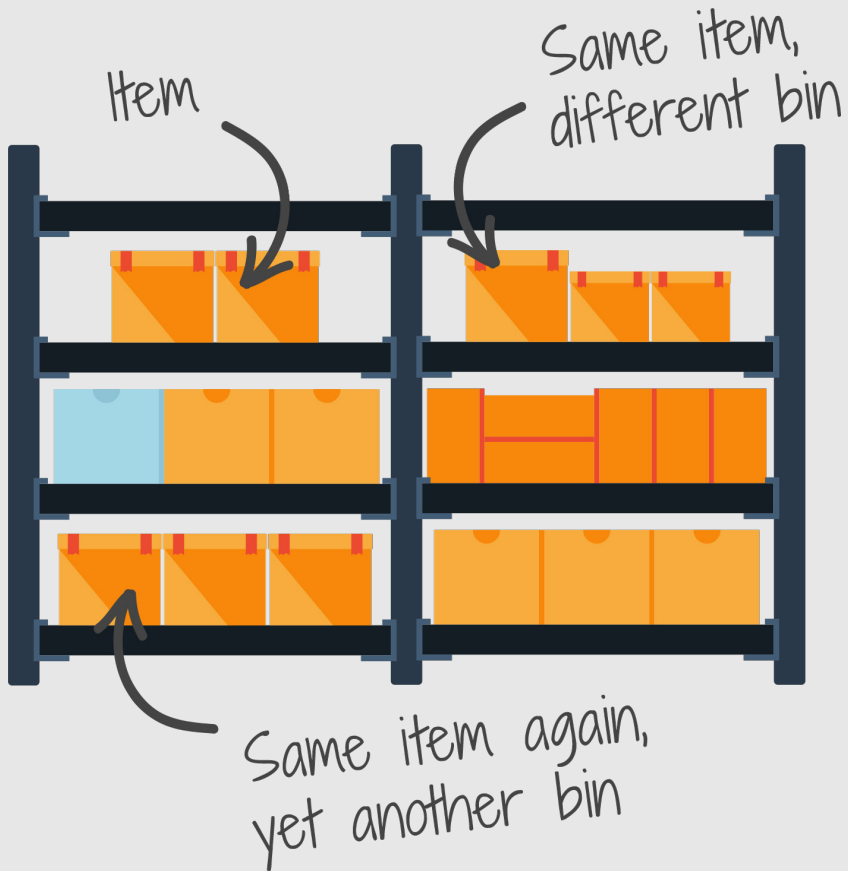
LEVEL 1: FINANCIAL INVENTORY MANAGEMENT

One thing is that the ERP system keeps track of how big a quantity of each item you are holding, and that that stock can have a value put on it.

This is the traditional financial and quantitative way of looking at it, and it is the foundation for the ability to keep track of the items in your ERP system.

It allows you to purchase an item and put it away in inventory; you can also sell it and withdraw it from stock.

CHAOS INVENTORY WITH BINS



LEVEL 2: INVENTORY MANAGEMENT WITH BINS

If we are talking about an actual WMS or Warehouse Management System, though, items per bin enter the picture.

As well as knowing what quantity there is in stock, the system also needs to keep track of which bins an item is in.

There may be twelve units on one shelf and three on another; each time you move the item – physically, out in the warehouse – you need to tell the ERP system straight away, so everything stays under control.

This is a whole new level of registration, because you, the worker in the warehouse, must now record it in the ERP system every single time you move or pick anything at all in the warehouse.

When you buy in the item on a purchase order, you must make a purchase receipt on which you register the item as it comes in through the goods-in bay and record that it is now in the goods receipts area. Then, you create an inventory put-away document on which you move the item in the system at the same time as you move it in reality from the receipt bin into the warehouse. And so on – right up to when the item is picked and dispatched.

REGISTRATION SOLUTION

I know some companies that can do without hand terminals, but only because they have a small warehouse and work with fixed bins.

The first paradigm in a warehouse solution, then, is that you must expect to register everything that happens in the warehouse; in practice, this is rarely feasible without a terminal solution.

Most companies therefore need devices to carry out registrations in the warehouse. These may be expensive hand terminals, truck scanners or just smartphones running a mobile version of the ERP system.

If you work in a smaller company with a small warehouse, this can be done quite simply, straight from a mobile client into the ERP system. But some form of registration solution is a must.

107

How many warehouse staff will be registering picks and moves?

And the first decision to be made on this is whether you will work online in real time in the ERP system, or whether you will work offline. In other words, whether you want your registrations to be updated in the ERP system without delay (real-time) or in batch mode (offline).

Real-time or offline

If everything happens in real time in the ERP system, a salesperson can create a sales order that will straight away be sent to the warehouse, where the order can be picked immediately.

In many warehouse solutions, picks are generated in the morning, when a batch job in the system works out how much you should pick in the course of the day; it then creates all the picks, and you get a job sheet showing what you have to do today.

More recent systems create one pick at a time. When the picker is free or has finished picking, he presses a button on his terminal to get details of the next pick, whereupon the system creates the next pick for him.

This means that, if a new top-priority sales order has just come in, it will be the next one to be picked.

It can also happen that items have come into arrivals just a moment ago, and the system can now see that this item is available and start allowing it to be included in picks. This whole debate about whether registration should take place in real time or offline is very important. Real-time planning of picks has some advantages, of course, but that does not mean it is always the best solution.

For example, you need to consider how good your network coverage is. Real-time naturally requires uninterrupted Internet access. Access points are usually set up throughout the warehouse, and this is easy enough as long as you are in an ordinary indoor warehouse.

I normally recommend working in real time as much as possible; if you do not have uninterrupted Internet coverage, though, you will have to work offline. If you opt for an offline solution that uses batch jobs for pick planning, ensure that the job runs as late in the process as possible so that as many items and sales orders as possible are included in it.

Should your terminal solution work in real time or offline?

108

Equipment

The choices discussed above may determine the type of hand terminal equipment you need.

Otherwise, I would say that:

If you have a lot of picks and a lot of pickers in a large warehouse, there is usually a good business case for choosing proper hand terminals with lots of features – ones that can withstand non-stop use and being run over by a forklift.

If you have a relatively small warehouse and just want to carry out occasional registrations there, you may be able to make do with a tablet or mobile phone directly connected to the ERP system. These are much cheaper but also significantly more fragile.

Volume is what mainly determines the choice of equipment.

Will you use hand terminals or mobile phones (or both) for data collection?

109

I go into more detail on the pros and cons of hand terminals and mobile phones for data registration in the chapter on production control.

The task of data collection is not to be underestimated. There is a lot of work involved in moving from paper to terminals. On the other hand, you gain many advantages by using a warehouse solution. I will run through four advantages that you should make sure you obtain when introducing a warehouse solution.

ADVANTAGE 1: FINANCIAL PREDICTABILITY

The first advantage is that your inventory is always correct – in contrast, that is, to the traditional model where you have to carry out a stocktake several times a year, requiring you to block out several days on the calendar to tot up all your goods... only to find a discrepancy of a million or more.

With a warehouse solution, it is easier to keep stock constantly updated so that you never build up a big discrepancy.

The great thing is, this is an advantage that appears of its own accord.

When you go to pick an item and it isn't there, you simply register an adjustment. This way, counting goes on continually on a per-bin basis, rather than periodically per item.



How big are the inventory discrepancies currently? And what is the target with the introduction of a warehouse solution?

The first advantage, then, is financial predictability.

In the traditional situation, where you take stock several times per year, everyone holds their breath for several days as you do the count, because nobody knows whether the discrepancy will turn out positive or negative.

If you are suddenly landed with a difference in the millions, it will have a direct impact on operating profit and give rise to some worried expressions in the finance department.

This can hurt, and periodic stocktakes cause jitters.

ADVANTAGE 2: HIGHER SERVICE LEVEL

When the inventory is more accurate, it also becomes easier to raise the service level and Perfect Order Fulfilment rate you provide to customers.

If an item is broken, you can scrap it straight away.

When something isn't right, you can adjust it straight away instead of waiting for a stocktake.

Perfect Order Fulfilment is about how many sales orders you deliver to customers perfectly, by the agreed time, at the agreed price and without complaints.

Of course, you want your customers to be happy – and they will be, if they get what they want, when they want it. That is the epitome of a high service level.

It is actually not enough to deliver at the confirmed time. If you go by SCOR (Supply Chain Operations Reference), the 'true' service level should be measured against what customers want to get.

If you can deliver that, you are good at what you do.

If your service level is too low, you are probably looking at goods that you have trouble obtaining in time, because planning is insufficiently rigorous or because you have a short outbound delivery time and a long inbound supply time, if you are purchasing goods in China, say, and delivery takes 6 months, but the customer expects to be able to buy the item at a day's notice.

So, you have a challenge. In this situation, you need to have your planning firmly under control.

However... in addition to this traditional challenge, you also need to think about inventory management.

If you think the item is in stock and sell it, but the stock turns out to be empty, you have a major challenge on your hands.

To attain a good service level, it is essential that the inventory adds up. This is why you need inventory management with real-time updating.



What is your level of service today? And what is the objective of introducing a storage solution for your level of service?

ADVANTAGE 3: MINIMIZED INVENTORY VALUE

At the same time, a warehouse solution enables you to reduce the amount of liquidity tied up in inventory.

It is an eternal question of priorities: whether to raise the service level by increasing stock levels or minimize tied-up capital and live with a lower service level or higher reordering costs.

Detailed inventory management gives you more chance of having your way on both fronts.

If your inventory management is in a mess and you cannot be certain whether there are discrepancies in your stock, you need to purchase bigger quantities so as to be sure of having enough in stock – thus increasing liquidity tie-up.

When you can manage the inventory with more precision, you can purchase more astutely and thus reduce inventory value without it affecting the service level.



What is your current inventory value? And what is the target for inventory value with the introduction of a warehouse solution?

ADVANTAGE 4: OPTIMIZED PICKING

One of the things companies pay most attention to when introducing a warehouse solution is sales order picking – the ability to pick in the warehouse and to be guided around the warehouse in an optimal picking route.

An optimal pick is all about the shortest, smartest route possible.

There are many different pick structuring models. You therefore need to be clear which demands the ERP solution will take into account when organizing picks.

There are usually many different scenarios to consider.

- If you have a great many sales orders, many of them for the same customer – for example, if you supply a large retail chain and have ten different open sales orders for them, of which some are backorders, some are for tomorrow and some were for yesterday, the inventory solution should intelligently put together a pick across the sales orders.

Do picks need to be planned across sales orders?

113

- Perhaps you want to do a 'bulk pick', picking for 20 different sales orders to different customers all at once, because they are relatively small orders; when you arrive at the dispatch area, you separate the items and put them in boxes. This is called 'bulk pick'.

Do you do bulk picks that are packed afterwards?

114

- It may also be that you want to work with 'box picks', where you pick directly into the shipping pack. If you have to pick for four sales orders, the inventory solution will ask you to pick into four different boxes.

The system must keep track of volume and needs to have worked out in advance how big those boxes have to be. This saves you from having to repack the items in the dispatch area, because you have picked straight from the shelf into the shipping pack. This is called a 'box pick' or 'pallet pick' according to the type of pack involved.

115

Do you box-pick or pallet-pick straight to pack?

- In addition, you may want to pick everything bound for abroad before 9 am, because that is when the carrier comes to collect consignments for abroad. The inventory solution must therefore be sure to organize the picks so that you aren't picking all the orders for local addresses, which then take up space in the loading bay, when the lorry bound for abroad arrives.

116

Does pick planning need to take account of freight forwarding or other time-dependent factors?

When it comes to picking, there are many different demands that are crucial to your ability to optimize the warehouse. Of course, the picker needn't worry about all this. The hand terminal should just guide the picker along the best route.

'Take a trolley with two boxes, sizes 3 and 5. Pick the items on this route.' The system should organize all this for the picker.

When an order has been picked, the warehouse solution should create the shipping documents and integrate with the carriers. In Business Central, we often use a solution called Consignor, but there are others.

The important thing is for the solution to take care of booking the carrier to come and of passing on all necessary data so that no manual processing is required.

117

What is the target for optimization of picking routes with the introduction of a warehouse solution?

FEATURE REQUIREMENTS

We have seen four benefits of inventory management that you should ensure you reap:

- Financial predictability
- Higher service level
- Minimized inventory value
- Optimized picking

If you are to get full value for money in these four areas, the thing is to be well prepared and lay down strict requirements to your ERP vendor.

If you already have a warehouse solution, you will probably have learnt some lessons, making it easier to spell out your requirements.

If you don't already have a warehouse solution, you should prepare the ground thoroughly. For example, you should look at the following:

- how big your warehouse is;
- how many picks you have;
- the type of picks you need;
- whether you want to pick for several customers at once;
- whether or not you want to pick for a customer across sales orders;
- whether you want to manage the volume and dimensions of items;
- whether you want the ability to pick items in different units of measure;
- whether items come in packs with differing quantities, and whether they have different markings and IDs;
- whether you have odd-size picks, such as a 2-metre-long broom that cannot go in a cardboard box;
- whether you have barcodes everywhere they are needed.

Let's drill down into some of the feature requirements that often pose challenges in a new warehouse solution.

Packs

You sell an item, such as a cola, by the unit, and there is a barcode on each can of cola, but they are packed 6 to a pack.

Should you therefore have a different barcode on the outside of the pack, or should it be the same barcode – in which case, will you need to remember to register 6 units when you scan a pack?

If the packs of 6 are packed into a box containing 24 in total, does that box have a new barcode as well?

Now, if there are different barcodes on the cola, and the system can recognize the quantity, the same principle then applies to all other items. Otherwise, mispicks are bound to occur. If you are to manage this challenge well in the ERP system, the system must support an item structure with packs in a variety of quantities.

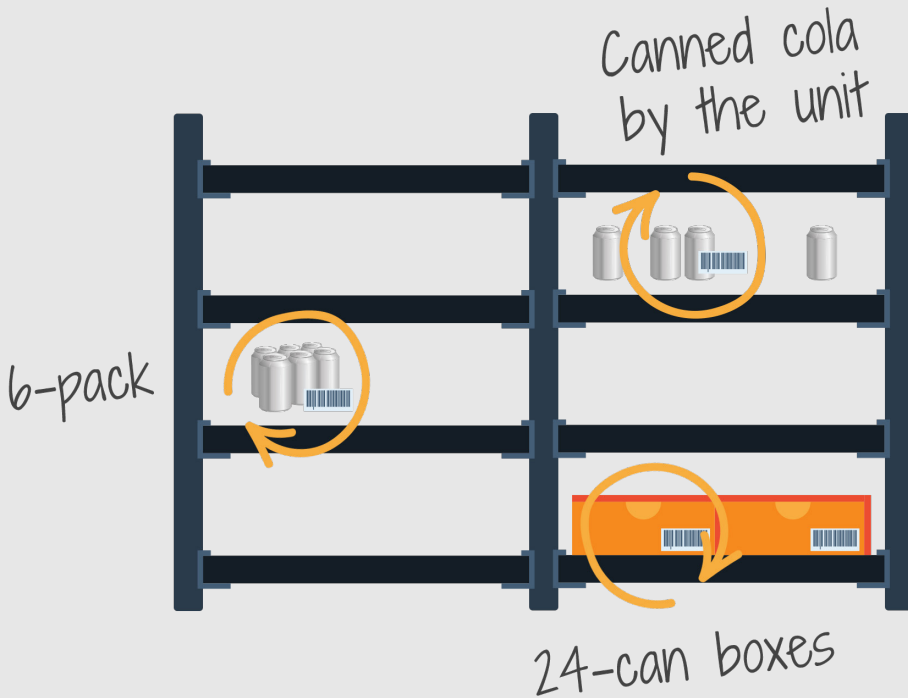
Otherwise, it will be awkward to manage – either in the item structure of the ERP system, or in the scanning situation in the warehouse.

You must keep good track of the packs and quantities you are picking in.



Do you have packs of different quantities of the same item, or will the pickers always have to indicate the base quantity?

DIFFERENT PACKS



Barcodes

When you introduce a new warehouse solution, the most time-consuming aspects include putting the barcodes into your ERP system, setting up the bins and attaching labels to all the shelves in the warehouse where you want to use hand terminals for scanning.

If you already have bins in your warehouse and barcodes on all your items, you are well on your way.

If not, you need to be aware that you have a big job ahead of you. It does not have much to do with the ERP solution itself; it is a low-tech job that has to be done.

Unfortunately, there are many companies that do not have barcodes on all their items and all their bits and pieces.

For example, if you are a foodstuffs company and you purchase a batch of cauliflower, it won't be delivered with a barcode on each head of cauliflower.

So how do you register them?

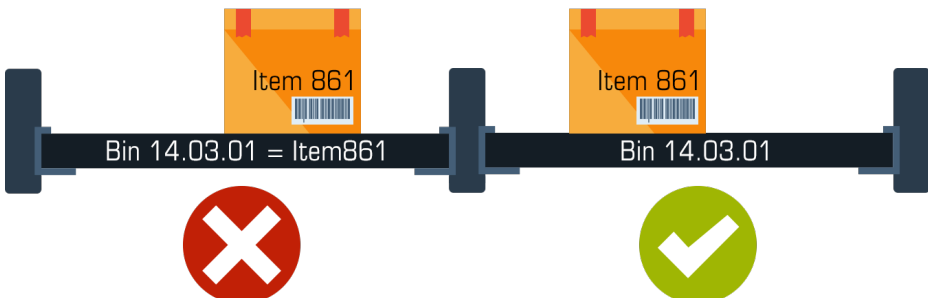
Must you keep the code for a cauliflower in your head, or do you have to walk over to a board somewhere and leaf through to the picture of a cauliflower so that you can scan a barcode?

This problem is not confined to the food industry. Barcode scanning is a problem in many sectors.

119

Do you currently have bins in the warehouse and barcodes on all items, or must these be introduced along with the new ERP?

**THE ITEM NUMBER MUSTN'T BE ON THE SHELF.
THAT MAKES THE WAREHOUSE INFLEXIBLE.**



Alternative non-linear units of measure

There is another major challenge for ERP systems in the warehouse: different units of measure. Most ERP systems handle unit codes perfectly well. You stock canned cola by the unit, but you also have it in a 6-pack and a 24-pack.

You deal with this by creating relationships between unit codes in the ERP system. So, you have units, packs, frames, boxes, collis and so on. Most ERP systems deal with this nicely.

The hard part: non-linear units of measure

A classic example might be frozen chickens. You sell frozen chickens in boxes of 20. There are 20 to a box when you purchase them, too, but settlement of accounts, both for sales and for purchases, is by real weight.

You order a pallet, which is 40 boxes, from your vendor. Then they arrive; you register receipt of 40 boxes on the purchase line in the ERP system, and it works out for itself that this makes 800 units.

In practice, however, when you scan them in at the warehouse, you may scan each box separately and record the weight, which may turn out to be fewer kilos than the purchaser thought.

Chickens can vary a lot in weight, and you want to manage this in ERP as well.

Ultimately, everything has to be settled up according to weight, so the ERP system must keep track of multiple non-linear units of measure for the same item. I refer to this as alternative unit codes, or 'second unit of measure' in ERP terminology.

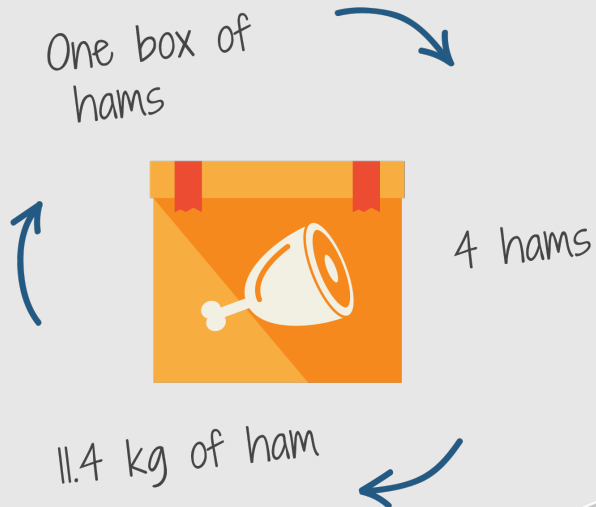
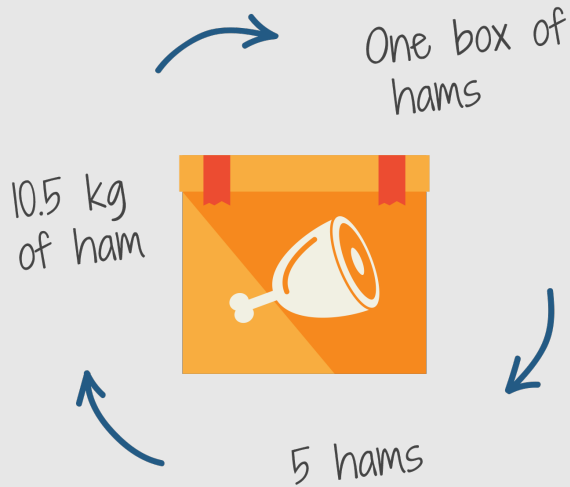
Do you need to manage items in multiple non-linear units of measure?



If you import Parma hams from Italy and purchase them in quantity, there can be wide variations. The hams weigh between 1.2 and 3.5 kilos each.

Your customer phones, orders 3 hams and gets 3 delivered, but payment must be by weight. In this situation, it is crucial that your ERP system keeps track of the units.

NON-LINEAR UNITS OF MEASURE



DO YOU WANT TO READ MORE?

This was a peek at the book about Business Central. I hope it made you want to read the entire book.

Get it at:

abakion.com/business-central-book

With best wishes,
Sune

