October/November 2020

Logistics News

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- Benefits of automated storage and retrieval systems

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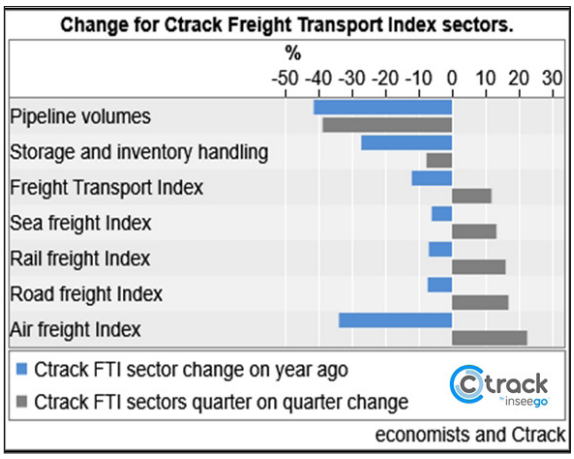
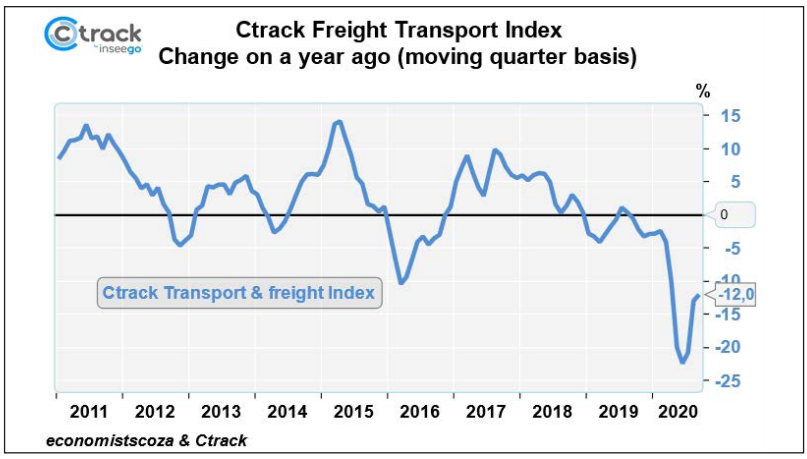
COVER

Radio frequency identification (RFID) is a technology that uses radio waves to collect and transfer data. It is used in supply chain management in order to track goods at warehouses. Here, a picker is using RFID to select products from the racks.

Ctrack Freight & Transport Index returns best quarter yet

The South African Logistics sector has just completed its strongest ever quarter of growth to date.





AS OFTEN happens, the biggest decline was followed by the highest growth. With September being the end of the third quarter, Statistics SA is expected to release the updated GDP figures imminently and all indications are that it will show the strongest growth per quarter in our lifetime.

In June 2020, the Ctrack Freight Transport Index showed that the logistics sector recorded a decline of 17,6 percent compared to the previous quarter, while the growth over the second quarter has improved with 11,8 percent. According to the Ctrack Freight Transport Index, only two sub-sectors recorded a decline. These were Pipelines, which is the smallest subsector, and Storage, which is historically very difficult to predict.

"The Ctrack Freight Transport Index has been recording these trends for a considerable period of time and we have never seen such growth and recovery, which is excellent news for the economy," comments Hein Jordt, Managing Director of Ctrack SA.

Freight transport tracks the economy in the near real time, and this tell us that the third quarter GDP will be the highest on record too. The Ctrack Freight Transport Index has a very close relationship with GDP and is also strongly correlated to the co-incident index. This is, of course, why we now expect the strongest GDP on record for South Africa and many other countries too.

While this recovery might seem remarkable, remember that if your turnover is cut by 50 percent from R1,000 to R500 in one year and you get a 50 percent increase on the R500 turnover the next (year two), your turnover is now only R750, which is still 25 percent less than in year one.

However, this does not take away from the strength of the bounce or the record-breaking nature of the recovery, but it does indicate that everything is not back to normal yet – with normal meaning the logistics sector returning to where it was before the slowdown in mid-2019.

The effects of the second wave of COVID-19 are yet to be seen, however, at the moment it seems to have hit Europe the hardest. China has recovered and is growing strongly while indications are that the recession in the US was not as bad as feared.

"We do expect some negative effects, but believe that they will not be as devastating as those of the first wave," says Jordt.

Internal sectors

Internal sectors are faring better than those with a bigger foreign trade factor. The Ctrack Freight Transport Index covers six sub-sectors in the logistics arena. They all behave differently, particularly during a worldwide crisis such as the current COVID-19 pandemic.

Airfreight had the strongest quarterly recovery; this is mainly due to the fact

that it was the hardest hit during the COVID-19 lockdown period. The 22,5 percent improvement quarter on quarter is significant, but still leaves Airfreight transport down 33,9 percent compared to the same quarter last year.

No other sector was as severely impacted during lockdown and IATA, the international commercial aviation body, only expects the sector to recover to where it was in 2019 by 2022 or 2023. However, the latest reports from IATA suggest that African Airfreight in total may have eked out some growth with a 1 percent improvement compared to a year ago.

Sea Freight grew 13,2 percent quarter on quarter, but is still 6,1 percent behind the same quarter in 2019. Sea Freight is coming back stronger than expected and improved by 12 percent in September compared to August.

There are, however, some disruptions in Sea Freight expected with Northern Europe going into another lockdown, which is causing delays in the supply chain. This will need to be monitored very carefully as waves of busy periods could be followed by relatively slow periods. The disruption is certainly not over and this sector, while less impacted than Airfreight, remains volatile.

Land-based transport shows improvements

Rail and Road recorded similar increases of 16 percent and 16,8 percent compared to the previous quarter. While both major forms of land transport report disruptions, such as border delays and illegal strike action, they are both only 7 percent behind the same quarter last year. A complete recovery is only expected in a year's time.

The recovery in the road transport sector may be due to the move towards courier type transport, however, long distance freight transport was at a similar level in September as it was in September 2019. That being said, September 2019 featured plenty of strike action and was also a weak economic quarter for the overall South African economy.

The Storage and Warehouse sector indicates a drawdown on inventories in the quarter due to cost cutting and supply disruptions, and the decline of 7,7 percent in this sector indicates a level of uncertainty in the economy.

Pipelines reported the biggest decline at 38,7 percent quarter on quarter. This is due to the storing of massive amounts of fuel during the second quarter and it may be another month or two before we see quarterly increases again. With many motorists still not driving due to widespread work from home policies, fuel usage remains below par (apart from diesel for trucking which is close to normal).

"South Africa is on the verge of climbing on the economic recovery train with companies keen to recover losses and restore their turnover figures. However, if business and the public do not continue to adhere to the basic hygiene and protection guidelines, we could be back into lockdown before we know it. Companies that barely survived the first lockdown will be sent off a cliff in a second round and the economic consequences will be significantly more severe if this does happen," comments Jordt. •

Sep-20

Percentage Change between	Rail	Road	Pipeline	Sea	Air	Storage	Ctrack FTI
Quarter to September: 2020 vs 2019	**-7,0%**	**-7,3%**	**-41,4%**	**-6,1%**	**-33,9%**	**-27,1%**	**-12,0%**
September vs August 2020	-5,6%	1,7%	26,6%	12,3%	21,8%	-29,8%	-2,2%
Moving quarter on quarter	**16,0%**	**16,9%**	**-38,7%**	**13,3%**	**22,5%**	**-7,7%**	**11,8%**

Note: the row highlighted in blue is the main Ctrack Transport and Freight Index values used.

Aug-20

Percentage Change between	Rail	Road	Pipeline	Sea	Air	Storage	Ctrack FTI
Quarter to August: 2020 vs 2019	**-12,2%**	**-8,6%**	**-36,9%**	**-9,9%**	**-39,8%**	**-17,8%**	**-13,0%**
August vs July 2020	16,9%	0,2%	-10,6%	2,9%	3,5%	12,2%	5,3%
Moving quarter on quarter	**2,7%**	**13,2%**	**-34,1%**	**8,0%**	**0,5%**	**5,2%**	**7,7%**

Note: the row highlighted in blue is the main Ctrack Transport and Freight Index values used.

Reflecting on COVID-19's impact as we positively move forwards

By Dr Craig Voortman

The COVID-19 crisis affected us all on multiple levels – as businesses, as families, as individuals.

2020 HAS been one of the strangest years in our lives. A small virus originating in China has become a massive Black Swan, whose ominous wings have spread across the world, and temporarily or even permanently paralysed many business operations, supply chain processes and even strained sociopolitical relationships across the globe – especially between China and the USA. The relatively calm global economic seas have experienced unsettling churn and uneasiness prevails.

We have come to realise globally how potentially vulnerable we are as businesses and individuals to both information and disinformation – and how information dissemination and the 'mass media' instantly impact our daily lives as well as our supply chain operations in real and often unimaginable ways. Life changed drastically and almost 'overnight', and we were all exposed to our personal, business and supply chain vulnerabilities.

Supply chains supplying essential medical items were initially stretched beyond their limits at the beginning of the lockdown, even in more sophisticated first-world nations like Italy, leaving the end-customers grappling with the dangerous, and at times lethal, consequences of supply chain failures. Essential food stuffs and pharmaceutical items quickly disappeared from shelves in many nations, only for shelves to remain empty for weeks and even months to come. Stock replenishment was often slow and cumbersome. Retailers were exposed to costly obsolescence challenges,

overstock and understock situations, and the real challenge of selling through their stock on hand. Some nations coped better than others. Some businesses coped better than others. Some supply chains coped better than others. Some families coped better than others. And I was left wondering why.

Initially, the first thought that came to mind was survival of the fittest. The fittest supply chains survived best and some even thrived during the crisis – some made even greater profits during the 'silly serious season' than prior to it. There were winners, and there were losers. The healthier and fitter the supply chain, business, family or individual, the better he/she/it coped. This led me to a key question: What is a fit person? And what is a fit business or supply chain?

I concluded that the same principles that apply to a fit person generally applied to a fit supply chain. Ten key dimensions came to mind as I analysed fitness in general and explored parallels with supply chain fitness in particular. The fit individual or supply chain is (1) flexible, (2) adaptable, (3) stable, (4) agile, (5) strong – mentally, socially, physically and spiritually, (6) disciplined and remains focused amidst a crisis, (7) follows regular healthy routines amidst a crisis, (8) is proactively well trained and ready for a change, the unexpected or even a crisis, (9) is resilient and copes better with a storm, and (10) has good coping mechanisms, thus enabling them to take the crisis head-on and not cower away from or succumb to the crisis. The fit – as defined by the 10 dimensions above – survived and thrived better than the unfit during the crisis.

Right at the beginning of the crisis my eyes were open – watching supply chain movements and which companies were ready and coping better than others. I recall watching Coca-Cola trucks making plenty of deliveries early on in the crisis – with their focused drivers wearing face masks and getting the job done. Replenishing stores and filling shelves. They had decided that they were not going to be the losers. Clearly, they had been proactively well trained to handle such a crisis and took it confidently and relatively easily in their stride. They were not reactive, but proactive and ready. Similarly, other strong businesses like Domino's Pizza coped better than expected as home deliveries soared and created new challenges – and their business model shifted overnight from in-store sales to out-of-store sales and home deliveries. No doubt the C-Level operations directors were doing their best to adapt to the surge of home deliveries, with the confined and fixed resources of a limited fleet of personnel and vehicles to make these home deliveries.

The business model was turned on its head and supply chain operators simply had to 'cope'. Business 'unusual' replaced business as usual. Some businesses suddenly made a bold attempt to start and initiate their online businesses from scratch – only to discover that a new online division of their business took more planning, thought, calculating and practical realism than was initially expected.

'Solvency' and 'staying liquid' became key business words as cash flows and bottom-lines were quickly and suddenly impacted. Solid integration and collaboration of one's business with supply chain partners and suppliers became even more important than during times of normal business operations. We needed them and they needed us. Three-to-five-year planning horizons suddenly gave way to more reactive one-year planning horizons, which were more reactive and less proactive, which invariably is not great for bottom-line profits nor sustainable long-term growth. But managers and leaders of production plants, operations or supply chains often have to think on their feet and adapt to the 'game' on hand, just to survive, before they can think about strategic chess moves ahead. Coping with the here and now took precedence over coping with tomorrow and the long-term future. The ability of

management and workers, business systems and short-term strategies, and supply chain operations to quickly adapt to the new game and make the sudden and necessary shifts determined who were the winners and who were the losers. Ultimately, the business winners during the COVID-19 crisis were simply those who adapted and changed according to the new global rules of the game the fastest.

Supply chain directors and CEOs of multinationals with a global footprint soon discovered that the practical day-to-day realities of globalised supply chains do matter and cannot be taken for granted. Integration and mixing and matching demand with supply became harder to manage, especially for gold coin and bar dealers who simply ran out of stock overnight, as mine after mine was closed in South Africa and across the globe. The journey of gold from the mine to the vault became a complex labyrinth – and somewhere between the mine and the end-customer, gold got lost in the maze of movements. The ripple effect of supply was felt right across the gold supply chain from mining to production, to slag supply of gold bars ready for refining, to transport and delivery of finished goods bars and coins from global mints to downstream dealers and traders, to out-of-stock situations for end-customers. Those 'out-of-stock' online postings on countless websites across the globe were now starting to impact the end-customer. And the demand dilemma made gold skyrocket towards $2,000 per ounce, up from $1,500 an ounce at the start of 2020. The major precious metals shift in gold, as smart investors moved to gold as a safe haven during a crisis, accentuated just how little gold supply there really is in the world from a supply chain point of view – only four Olympic swimming pools of gold held in total by all individual investors combined with sovereign wealth and federal reserve funds across the whole planet. Talk of a situation where demand out-strips supply and you have a perfect recipe in the making, and it is called gold. Gold certainly emerged from the COVID-19 crisis as a winner and will be for the decade to come.

Multinational CEOs also discovered that supply chain partnerships and collaboration mattered more than they might have realised during these times of crisis. One of my close friends, a CEO of one of the world's leading diamond companies, was faced with a twin-pronged supply chain challenge: real upstream diamond supply challenges on the one side, and then countless stores which closed down in Europe and other parts of the world on the end-customer side. A 'double-whammy' which required smart manoeuvring and management on both ends of the supply chain simultaneously – which stretches the supply chain skills and dexterity of even the smartest and most skilled of supply chain managers and CEOs.

Although traditionally many diamond buyers like to do so in-store, they noticed that due to global COVID-19 travel restrictions, online spending on jewellery from reputable suppliers in particular actually increased. So whilst in-store sales shrank, online sales flourished. The realities of matching the online demand with steady supplies from the diamond mine accentuated the complex diamond domino effect and also created a temporary bullwhip, making the concertina effect of significant supply chain vibrations harder to manage – as online orders pulled the whole supply chain, creating vacillations and spikes and troughs that were not easy to manage. All supply chains, from farms to factories, from grocery stores to luxury stores, from hospitals to airlines, were greatly impacted by the crisis, and had to make quick adjustments just to survive and stay profitable. Some were winners, and some were losers. •

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LA

SUPPLY CHAIN EXCELLENCE AWARDS

Supply chains full of woe

By Doug Hunter, doug.hunter@za.syspro.com

Old habits die hard, but good Samaritans still help communities recover while others chance a sneaky profit – for the shareholders you understand!

SIX MONTHS in a dining room chair, glued to Zoom or a cell phone... and I'm free. Lockdown Level 1 – visiting the office, meetings with real people and, for me, taking a break in the bush. After a four-hour game drive and first beer, recollections of lockdown are easing.

Pricing affects supply chains

Costs rose during the pandemic for certain industries – those still operating. But some prices were unreasonably high – some were fair and some reflected unscrupulous suppliers, manufacturers or traders' customer/business attitude of 'me-first, not you'.

Industries differ

• Food

After a visit to a local Quick Shop, I got home and checked the five basic items that cost almost R400: butter spread pre-COVID was R74; into lockdown it was R96, plus there were other overpriced items. I've experienced bad owner attitude there before, so 20 years of buying fuel for two cars and R300-a-bag top-up groceries are over – that's R60k a year, or was... I've stopped using that outlet. One entity kills one customer's lifetime value for a whole supply chain. Do other chain players see this effect from badly timed R20 overpricing?

My local beverage store took a chance. Instead of adding one percent tax increase to a bottle of wine, it added 20 percent. It's a great business, great people, but do that to me again and loyalty may suffer.

Then at Pick n Pay – the star retailer for my family – there was easy e-commerce ordering, reliable notified home delivery, always OTIF (on time in full) and value for money, even considering new DC order picking and other processes, extra delivery and thermal box costs – thank you.

• Hospitality

Those able to reopen have had slow ramp up of guests, but surely international travel constraints provide an opportunity to get South Africans to South African destinations? Think immediate and long term. Adapt through survival to marginal to profit again. That approach just got me out the dining room to the bush.

Some food outlets/restaurants moved through soup kitchens for the destitute or struggling, through take-away/home delivery options, adding booze when they could, and now have special menus to use what's available.

• Engineering and fabricated metals

Steel imports stopped from China and may not restart, or will they? China supplied the second major global virus, so how cheap has supply really been for you, your employees and customers? How long were you closed? How many staff did you put on furlough or retrench? How many projects stopped? And how many unnecessary deaths?

Bush drive summary

As consumers or producers, COVID-19 vividly shows us how one global supply chain disruption forces leaders' rapid innovative adaption, but also small actions that reshape channels to shine or damage the brands that are part of them. It's time to look over channel fences to check that customer service and brand value aren't being eroded by 'partners'.

When it comes to product costing, adapt from discount per item/bottle. Tie me in with a discount per purchase/year – the more the better – and push me to put new stuff in my 'shopping-basket' that makes you a better margin and me happy.

Then there is bush learning from my host, whose town is near the Kruger Park, where 350 people (and families) had no pay, meaning over 1,000 people were affected and the supply chain disseminated locally. Then other families with earnings out of town become sole breadwinners for their relatives and friends – those who have share with those who haven't, so everyone survives.

Can't we do this for industry supply chains? Share the pain to survive and then seek the gain together. Is the 'China Factor' pushing you to find alternate supply from different countries as you add the true costs of 'low price'? Or will you source/make locally and advertise this – what will that do for consumers or engineering brands? Add value/volume and justify price. Let's do it. •

Managing global sourcing is risky business

By Wesley Niemann, wesley.niemann@up.ac.za

A study conducted at the University of Pretoria investigated the reasons behind South African clothing and textile retailers' decisions to source globally, what risks these firms are exposed to and how these risks are identified and managed.

BETTER PRICES, higher quality, greater variety and shorter delivery lead times are just some benefits that South African clothing and textile retailers experience when sourcing their products globally. Combined with the uncompetitive nature of the South African clothing and textile manufacturing industry, these benefits are often the very reasons driving many firms' decisions to take the global route.

Whilst many benefits could be leveraged in global sourcing arrangements, firms should tread carefully as the increased complexity of these arrangements may very well amplify the firm's exposure to risk and disruptions.

A study conducted at the University of Pretoria showed that the clothing and textile industry sourced its products globally for a variety of reasons. Access to lower cost goods and better quality was a major influencing factor in participants' decisions to source globally. Limited or lack of local supply and access to more variety were noted by participants as significant push factors for small clothing and textile retailers to source globally. Global manufacturers appear to be more up to date with the latest trends and can provide products not available locally. Ease of access to the market and familiarity with the sourcing market significantly influenced decisions on which countries to source from. Several participants noted that having family or friends from the sourcing country, or being a native from that country, created greater ease of access to that particular market.

Participants indicated that complicated and costly logistics added a significant risk element as many items are damaged or go missing during the mandatory customs clearance activities. In addition, they experienced delays in the clearing of items, which increased overall lead-times. Political and economic instability in the South African context makes fluctuating exchange rates a constant problem, as the majority of global purchases are paid for in US dollars. These fluctuations drastically impact the firms' purchasing power and ultimately profit margins as they cannot increase their prices as often as the exchange rates fluctuate. Communication and cultural barriers often lead to the inability to negotiate with suppliers to get better prices or result in delayed outputs. These aspects also make visits to sourcing countries more challenging. Several other risks were indicated, such as supplier reliability, which often affects the quality of items for which the retail owners present custom design requirements.

Given the size of participating firms, the majority of risk identification approaches used tended to be informal in nature and were conducted at the sole discretion of the clothing and textile retail managers. Some participants used a landscape analysis as part of their risk identification process, where the firm assessed the sourcing country's political, economic and environmental conditions by conducting online research. Informal product quality checks were conducted by several firms to ensure that products comply with order specifications in terms of design and quality before being packaged for shipping. Supplier pre-buying reviews were conducted in which owners checked suppliers' business profiles and online reviews before making a decision to source from any particular one. Exchange rate monitoring through regular rand to US dollar exchange rate checks were regularly conducted.

Though informal, multiple approaches to manage risk were reported. Exchange rate fluctuation buffers were either proactively or reactively built into participants' profit margins to manage the risk of exchange rate fluctuations. Hedging tends to be a better alternative, but the costs involved with hedging prohibit the majority of small retailers from making use of this approach. Dual transportation by means of separating orders into batches and transporting them individually was a method only employed by a select few of the participants, but seemed to be effective nonetheless. Managing communication and cultural barriers using mobile translation applications allowed participants to improve their negotiation abilities and assisted in securing the supply of products.

The risks associated with global sourcing are a reality for many firms operating in other retail contexts. This study identified a range of informal risk identification and management approaches that can be implemented without the need for major investments in capital or time. •

Why your mobile strategy should be top-of-mind

By Nick Durrant

Mobile app usage increased by 40 percent year-on-year in the second quarter of 2020 and in-app spending hit a record high of $27bn.

ACCORDING TO GSMA's 2019 State of Mobile Internet Connectivity report, the mobile industry currently connects over 3.5 billion people to the internet, which is just under half of the global population. And the current COVID-19 pandemic has only driven mobile appeal. So much so that the second quarter of 2020 was the largest yet for mobile app downloads, usage and consumer spending, research from US app store intelligence firm, App Annie, reveals.

We have embraced the world of online banking and shopping because the idea of visiting a bank or shopping mall during a global pandemic holds limited appeal. With all of this in mind, developing a mobile strategy isn't a nice-to-have, it's a must-have. So why are brands still focusing so much of their attention on the desktop experience?

Going mobile first

Back in 2010, Eric Schmidt, a former Google exec, encouraged businesses to adopt a 'Mobile First' approach to designing web experiences. As the name suggests, this entails starting your product design journey with mobile in mind and then expanding features to create a version suited to tablets and desktops.

Gone are the days when your mobile user interface (UI) was considered a 'secondary' scaled down version of your desktop experience; with your mobile site only offering a fraction of your website's functionality. A mobile first design approach starts with the smallest screen resolutions, before working your way up to larger screen sizes. If you've ever visited a website on your mobile phone and the page isn't designed to automatically fit different devices automatically, you'll understand why this aspect is so important. More importantly, when we talk about 'mobile', we are referring to the mobile web and mobile apps. Designing with the mobile web in mind is about making sure that your website can adapt to any screen size and resolution.

Alternatively, going mobile first can also entail developing a mobile app. This mobile strategy not only allows brands to have more personalised interactions with their users, but it also acts as a useful information gathering tool. App data can ultimately be used to improve user experience (UX). But this doesn't mean that desktop optimisation should fall by the wayside. It's all about adapting and meeting your customers where they are.

DinePlan case study

When we created the DinePlan app, our aim was to help consumers make a restaurant booking on-the-go. As South Africa's first instant restaurant booking app, users can find a restaurant based on their current location, restaurant availability, desired cuisines and even based on customer ratings. But when the coronavirus lockdown halted restaurant visits, the app had to evolve.

Keen to help the restaurant industry weather the lockdown storm, the DinePlan app launched a feature that allowed customers to purchase restaurant vouchers that they could then redeem at a later stage. This, in turn, helped the hospitality industry generate cash flow during the national shutdown. Again, meeting customers where they are.

Back in 2015, Casey Carl, a former chief strategy and innovation officer for US retail brand Target, explained that mobile had become a business's new front door. Customers want to shop and do business whenever they have time and flow seamlessly across various different channels.

And this is what a mobile first strategy is all about. It's about developing with the end user in mind – the different devices they're using, how they're using them and what the most common screen sizes may be. Ultimately, it doesn't matter if you have a website, a mobi site, a PWA or an app, you need to create something responsive, informative, easy to navigate and that provides clear directions and calls to action. If your platform doesn't do this, it's time to rethink your mobile strategy. •

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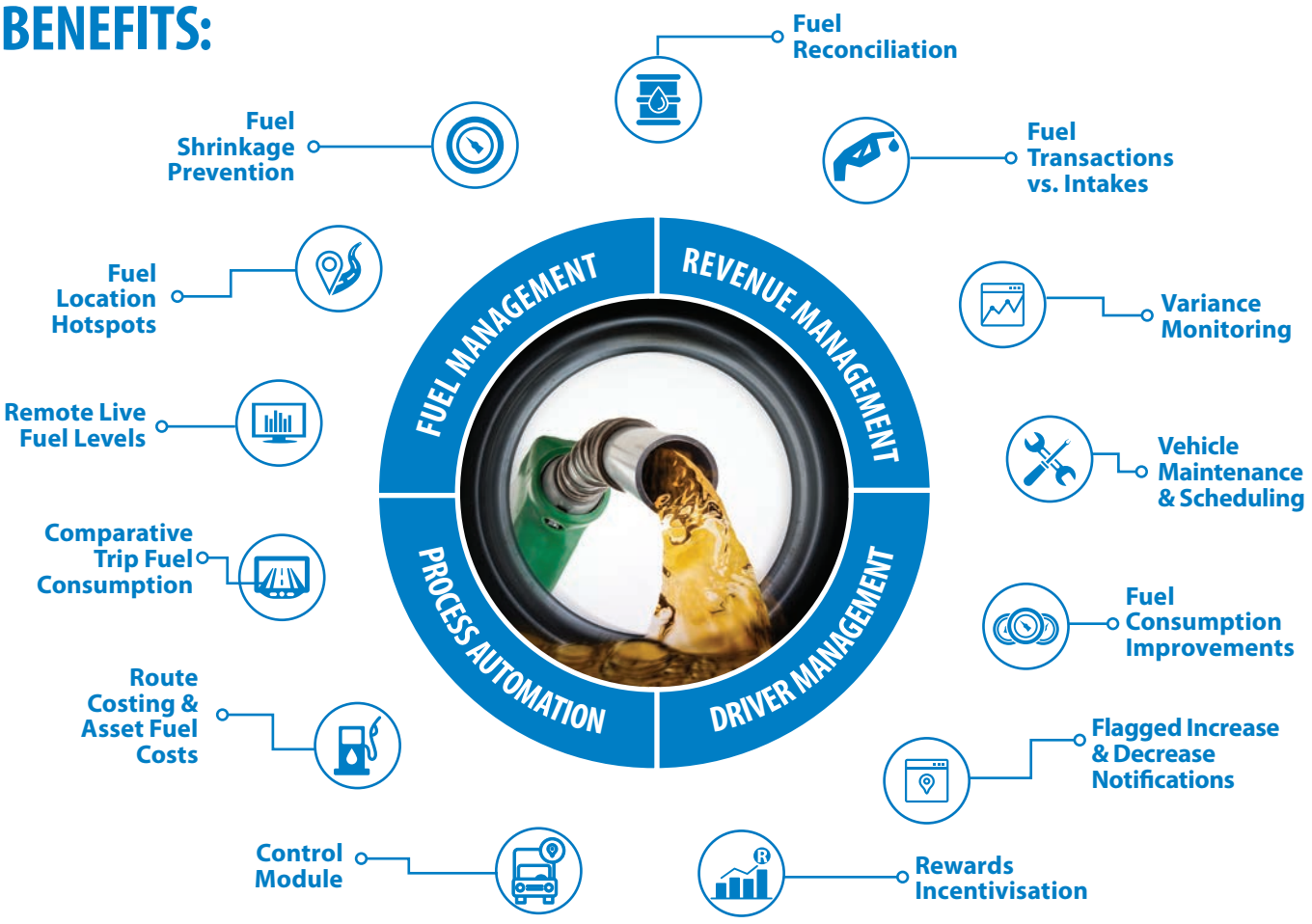

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Always Visible

Demanding better demand planning

By Ann Grackin, courtesy ChainLink Research

Some thoughts on the difference between ordinary demand planning and AI/ML-enabled demand understanding.

INNOVATION IS moving along rapidly in supply chain these days. Users and solution providers are learning together how to apply more advanced analytics and data. But so many organisations are still relying on past philosophies of demand and supply. Too often, price elasticity curves (and the accompanying promotions) drive forecasts for production.

We all know price is not the only factor that influences demand. However, in the past, with fixed concepts of data, this was all many forecasters could analyse and calculate. Even if your organisation has more nuanced forecasting systems, most companies have basically ignored many important inputs in their forecasting systems, for example:

Marketing input: Marketing people often chafed at price elasticity as the method, instead presenting other views and market analyses of demographics and other methods for defining customer grouping, as well as the customer's desire for/need for a certain product or service. In fashion, 'prestige' or 'budget shopper' laces marketers' language. Since they include income data in their spreadsheets, these various views allow them to conjecture pricing and demand for certain groupings of customers. Problem. It's all in the spreadsheet! And even if marketing does have a system, the credibility of the data is often not validated. It becomes an artifact of the recent past as production gets rolling.

Product design/engineering input: Product people also chafed at the demand/supply elasticity curve as it did not take into consideration product attributes and features and their utilitarian and sustaining value. Importantly, price elasticity does not take into consideration the customer's ability to actually evaluate the increased value they receive and, thus, their justification of an increased price. Product designers often supported their argument with competitive analysis based on feature/function. Again, this data does not fit neatly into the forecasting system your company may have purchased as recently as two or three years ago.

Logistics input: Then we have the issue of availability. Currently, consumers in more 'developed' economic sectors have access to lots of home shopping/delivery options to get deliveries. Delivery today plays a big role in demand. And one way or the other, consumers are paying. We must find a way to fit this data into the forecasting system.

Historically, we could look at some of these factors and attempt to glean whether our strategy and investments in customer segments or product development were effective or not. Fact is, in the very recent past there was no consistent way to validate that the results could actually be tied to the causals. Many organisations today still don't practice building smarter models based on these and other demand-factor inputs that they may even know about through experience.

Widening the horizons in demand

So, let's dive deeper into this discussion about widening our ability to understand demand and supply. Simply, products and pricing strategies can be looked at in two fundamental ways, assuming the necessity of the product: commodity, highly available from multiple sources (often cheap sources of production); or limited supply, often single source (where often production cost is higher, with expensive material, but not always).

• Commodities

A popular commodity like soap is a necessity. But it is also a highly competitive market. As well, there is abundant supply. Thus, buyers often feel little pressure to buy without some incentive at a given time. Therefore, the amount of soap you sell, to a great extent, can be gauged on price. This is why brand companies and their channels expend so much effort on promotions. However, promotional management comes at a huge price. Commodities products can, at times, have so much availability that, in essence, they are dumped in the market. Yet we can still spend a fortune on the associated information, relationship management and logistics costs and coordination.

• Single source/limited supply

These are products for which there is only one source, or limited sources, of supply. Generally, sellers in these markets can claim higher prices for their products. These conditions may be a permanent factor of supply markets, or temporary. For example, some products, such as lifesaving medications, will be bought at any price. On the

other hand, the condition could be temporary, such as recently when we went through a significant supply shortage of toilet paper. Though traditionally this would be a commodity product, toilet paper, hand sanitizers and disinfectants recently moved into the category of short supply, and prices moved up accordingly.

Fixed forecasts are out. Flexibility in forecasts is in. And in reality, that kind of always was the truth. Products, and the calculating approach used to plan them, may not be fixed values with a fixed relationship between demand/supply and price. Whether a regular part of the landscape, the normal process within the cycle of product introduction and fulfillment, or emergency market issues, grappling with these issues requires a widened horizon in looking at, understanding and, therefore, forecasting and managing demand and supply. The impact of weather, a social trend, or some kind of national emergency can be understood and expressed as part of an analytical model, i.e., as fields, parameters, values and equations, to capture, calculate and communicate said impact and its resultant values.

Enter the non-fixed parameter

So, let's get back to toilet paper. What changed here? If we think about traditional forecasting systems, the forecasting parameters are fixed – in the toilet paper example, we use history + some safety stock value and demand flows by channel/customer/location. Within safety stock, there is a value that either a planner or the system set based on history. In this example, my field has a fixed parameter/a fixed forecast method. This is the way we did things. Now, however, history, channel and safety may not mean much with a range of factors influencing how we plan even the simplest things. History can tell us a lot, but not maybe in the fixed way it did before.

Grocers and distributors know, either by history or intuitively, the dynamics that previously impacted actual sales or shortages. For example, severe weather warnings will create a run on food, water, and toilet paper. Hence, the lower limit on safety may no longer apply, since demand will spike and we don't want to run out.

How would this flexibility in parameters, methods and data work? If I have an ability to flex or change my parameter for toilet paper for each storm, say based on category of the storm, I can select a time period that contains the last major storm of this magnitude. I can select with the sales history date-range and leverage that forecast. I can also change the actual way I utilise those specific values, for example time/data range, smoothing and best fit algorithms.

In essence, most of the fields, ranges and the actual forecast method used can change for each product at each location at any time. In theory, we could continuously tune our parameters every time we forecast. In practice, we might not want to do that since our mind can't grasp all these dynamics, and too many changes to tasks and processes challenge the auditability of what we are doing. Certainly, when we have major changes, we will want to tune or change our parameters. And we would want this to occur automatically. Whether the systems are autonomous or just send alerts to the user, we do need the system kind of running on some level of autopilot since this is just too much for a human to figure out.

Conclusions – dynamic, expanded, continuous and autonomous

We know that the idea of using history alone in forecasting the future was somewhat questionable, at times. While that approach may not be obsolete, it is limiting, since now we can look at an expanded view of our markets, customers, channels, suppliers, carriers and so on, and see the many demand-impacting factors as well as the dynamic interrelationships between them that we never saw before. And if we are customers of a large supply chain provider, we can now gain the benefits of an aggregated view of history and multiple in-process logistics flows to monitor and react to changes. We can see that by the SKU for each time increment, allowing constant tuning and optimising of many of the factors where the money gets spent and made – price, order quantities, supply volumes, inventory investments, safety stock, on and on.

We now have the ability to capture all that data, have a machine digest and continuously learn from it, and produce some insights. Using formulas, the system can pick the right forecast method based on all of the factors.

Why would we want to do this?

We now have the ability to dynamically change plans, safety stock, production values, warehouse stores and so on based on the variety of demand impacts and their interrelationship at a specific timeline and location, giving us much better perceptions and actions. Based on this, we can improve sales and profits by producing at the right time, reducing logistics costs or excesses; and at the right price, optimising prices across the life cycle of a product and with more dynamic pricing schemes based on market characteristics.

This is increasing sales, increasing profit. A real win. But we do have to make a lot of changes to get to this point. And that means upgrading the data and technology. If the recent past has taught us anything, those who had a more robust and smarter supply chain operating model or had the smarts to react early are doing okay. •

Bringing B2C digital capabilities into your B2B manufacturing supply chain

Courtesy Perficient

Complex supply chains have struggled to keep pace with the demands placed on them in 2020.

EVEN BEFORE an unprecedented global pandemic crippled suppliers and halted shipments, an international trade war and an unexpectedly steady stream of natural disasters in recent years have created ongoing challenges for supply chain managers. In response, supply chain leaders realised the importance of improving agility through digitising their supply chain and order management capabilities, and 80 percent expect that the digital supply chain model will become predominant within five years.

From manufacturing to healthcare, many businesses failed to overcome disruptive obstacles in recent years – in part due to manual supply chain management capabilities, which are notoriously rigid. By design, traditional B2B models scale up and down accordingly based on relatively predictable shifts in demand. Manufacturers across critical industries now need to learn how to break out of their traditionally inflexible supply chain models and quickly gain the ability to pivot in the face of disruption.

The COVID-19 pandemic brought these problems to the forefront of the supply chain sector as demand for medical devices, PPE and other essential goods put the medical supply chain's inability to adapt in the face of unexpected surges on display for the world to see. Manufacturers and logistics operators across industries ranging from food production to electronics to consumer goods all faced similar problems to varying degrees.

Large global companies now find themselves struggling to overcome weaknesses in their supply chains that have been accentuated by the coronavirus pandemic, retaliatory tariffs and other disruptive events. These organisations are increasingly seeking expertise outside of their companies that can not only help identify the solutions required to lead an organisation into the future, but also source and implement them.

Manufacturers adapt to the B2B channel shift

The lack of agility in traditional manufacturing models left many organisations unprepared to adapt their supply chains to meet the order-centric demands of the modern B2B arena. B2B transactions are commonly still facilitated by fax machines, emails, phone calls, paper orders, manually filled spreadsheets and field sales reps. Digital supply chain solutions are often secondary for manufacturers if they have the capability at all.

With a traditional ERP background set-up, data is not nearly as fluid and dynamic as it could be and you're not getting data from multiple sources and AI. That causes stagnation and processing capabilities that are much more rigid.

Procurement buyers are consumers in their personal lives, and consumer habits have led them to expect a certain level of service on

the things they buy. As such, corporate buyers are now promoting a digital shift in the way they choose to purchase from suppliers. The demand on the consumer side for better, faster shipping and delivery has spilled into B2B markets, putting further pressure on businesses to streamline supply chain and logistics capabilities.

Consumers can see where their online order shipment is at any hour of the day. Now we're seeing that migrate into the B2B world. B2B buyers today want that self-directed customer experience they get at home. This means that manufacturers without the streamlined digital capabilities necessary will lose sales to competitors who have fully implemented digital supply chain platforms. While B2B supply chains involve fewer parties and customers overall than B2C/retail supply chains, the complexity of each vendor/supplier relationship can make B2B supply chain management and digitisation more complex in many ways.

When you get into B2B manufacturing models, the contract really governs the relationship. It's not as simple as 'I sell and you buy.' Who at your company is entitled to purchase from mine? Their purchase power may be limited when they want to place an order, then it needs approval. The contract may not cover the total catalogue. There's all these corresponding terms and conditions that have been agreed to about when the product will get out, how it ships, reverse logistics. Every contract is different for manufacturers. Relative to retail, there's so much complexity that governs B2B relationships.

The handshake deals and complex service-level agreements that govern B2B transactions often act as a deterrent to automation and digitisation because business leaders worry that the unique variables in each relationship won't be properly translated into a broader solution, resulting in a loss of customers if something goes wrong. This perception is flawed, however.

When each vendor only has its own terms filed away on paper from faxes and printed emails, it can be difficult to keep sales representatives in the field up to date with accurate, real-time information on factors such as capabilities, products, entitled pricing, purchase histories and lead times.

Eradicating manual processes in favour of digital replacements ultimately improves service to the customer by offering better visibility into order status, history and milestones at the point of sale and into the order itself.

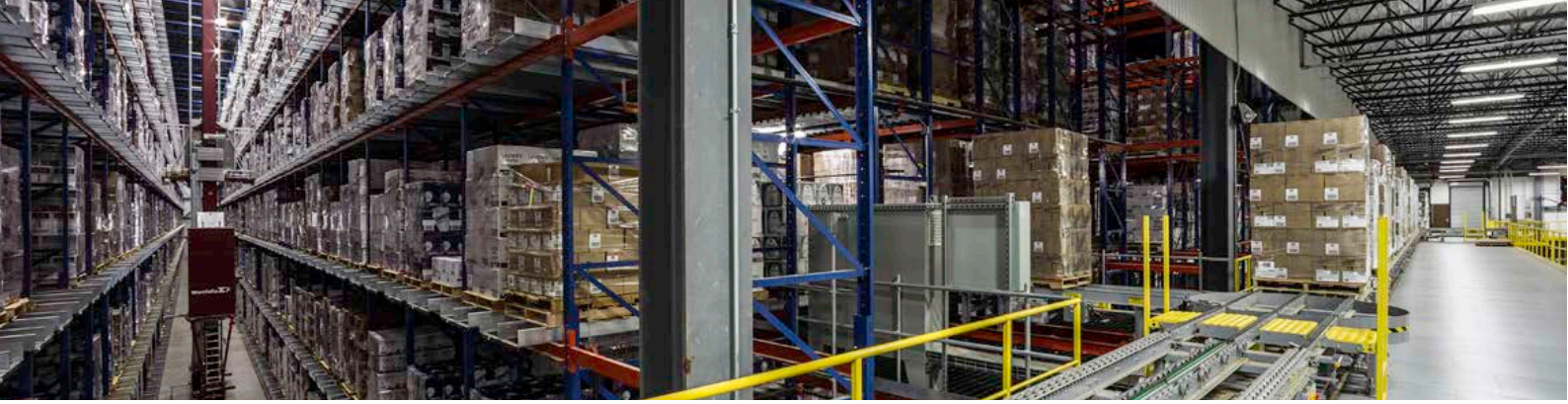
The key to creating a successful roadmap to digitisation, visibility and supply chain efficiency involves finding the right partner that will take the time to understand what your business really needs. Any consultant in this arena must be able to balance the unique elements of each manufacturing operation with processes anchored in best practices, enabling them to guide and implement organisational change.

Not everything can be solved with technology. It takes a combination of technology and better processes, but the technology can help a lot for most manufacturers because they usually have a lot of room for improvement. Integration can be a big hole for many of them, so connecting the pipes and making sure the data flows intelligently in the right direction and into the right systems can really help them be successful.

Obtaining expertise from supply chain consultants to break down walls between processes will facilitate a more personalised and customised approach to your organisation's supply chain. Additionally, it is critical to streamline sales and production models to incorporate all variables, allowing the manufacturing operation to pivot wherever demand leads.

Keep in mind, not all manufacturing operations are made equal. Each sector has its own set of problems and concerns, as does each individual business. To fully streamline supply chain management and order management processes, it is essential that your partner fully understands all the pain points and obstacles specific to your operation so that they can identify the vendors and service providers best suited to the job.

Ultimately, the right partner will collaborate with you to design and implement a strategic roadmap and stay with you throughout the journey to adjust it when necessary based on data and metrics. By staying with you throughout the journey, this partner can help you control costs and adjust your sales and operations planning, training practices, cycle times and more to keep pace with shifting metrics during your operational shift. The destination point for this roadmap should be a fully optimised supply chain that is specifically customised to the unique needs of your organisation. •



Understanding AS/RS

Courtesy Westfalia Technologies

Automated storage and retrieval systems (AS/RS) take the complexity created by growth and increased SKUs out of the hands of manual warehouse processes and place it in the reliable hands of automated machinery and software provided by the AS/RS manufacturer.

A HIGH-TECH AS/RS offers companies the ultimate combination: a long 20-30+ year lifespan with internal rates of return (IRR) generally over 20 percent. The savings are real. The returns are high. The reliability is incredible.

It is all possible due to the following reasons:

Optimised space utilisation: An AS/RS can enable the selection of a tight site or landlocked building by densifying and adding height to the storage system. Existing buildings can often be retrofitted, and new building heights can enable corporate growth by providing the proper inventory levels to meet customer demands.

Reduced labour and equipment costs: Although every warehouse situation is unique, a single crane operating on three shifts can generally do the same work as three forklifts and nine employees.

Less waste: An AS/RS results in less product damage, and theft is eliminated by 'locked' inventory. Further, stretch wrapping costs decrease because less wrap is needed to secure goods on a pallet.

Lower maintenance costs: Forklift leasing and maintenance costs generally exceed normal AS/RS maintenance requirements.

Lower energy costs: Businesses experience lower energy costs, often on the order of 30 percent or more, especially in refrigerated and frozen warehouses. An AS/RS allows businesses to operate using less square footage and in a tighter cube with smaller ingress/egress openings. Thus, there is less space to cool and less refrigeration tonnage needed.

These are just some of the reasons why companies worldwide are investing in high-tech AS/RS. Better still, the efficiency gains realised through optimised warehouse operations and the cost savings accrued via maximised space utilisation are only expected to rise as new innovations advance this technology.

Most of the advancements a user will see are in the stability of systems and robustness of equipment. Along with this comes the user friendliness of software interfaces and the accessibility to operational metrics.

AS/RS design

With continued growth and SKU proliferation, manufacturers and distributors are struggling to find the necessary space for storing these products. Warehouse space is at a premium and new construction can be an expensive undertaking if not planned properly. By retrofitting their facilities or expanding with high-density, multiple deep AS/RS, these organiations can essentially 'do more with less'.

Often, these systems can eliminate off-site storage, cross-docking to remote facilities or other inefficient double handling and extra transportation of product. With transport and storage costs averaging as much as 50 cents per case, these savings can quickly add up.

Robotic systems can also complement an AS/RS. They can release cases and layers to fulfill orders and be replenished from the AS/RS. The warehouse execution system (WES) ties it all together, triggering automatic replenishments and managing all product movement into and out of the warehouse. These systems are often called 'order fulfillment systems' and add another level of automation to the process.

Today, two storage and retrieval machines (S/RMs), or cranes, can be placed in the same aisle, an AS/RS innovation made possible by greater flexibility in controls and WES software. So, if throughput increases are anticipated, the addition of a second crane in one aisle may handle the volume with ease. Plus, the second crane provides redundancy should the other be undergoing routine maintenance.

An AS/RS also allows for better management of SKUs. Modern AS/RS implementations can be flexible hybrid systems. In a hybrid configuration, some lanes are single deep, some are double deep and some

are multiple deep (3-12 pallets deep). Thus, AS/RS design can match a client's item/SKU mix and its varying product throughput rates and inventory levels. Should the AS/RS require expansion to meet future growth, aisles can generally be lengthened or added, providing both lateral and longitudinal expansion alternatives.

An AS/RS is made up of five essential components:

- A rack system to store product.
- A crane or S/RM (storage and retrieval machine) that runs on a floor rail.
- A load-handling device/shuttle to move product from the crane to the rack location.
- A conveyor system to move goods to and from the AS/RS and dock areas.
- WES software to control, track and optimise all product movements.

Data analysis and metrics

Despite any preconceptions about automation technology, it is simple to decide whether or not to invest in an AS/RS by taking the following three-fold approach:

1. First, perform an analysis of the warehousing system's existing design and framework.
2. Then, examine some basic, yet key, criteria to determine if the operation is suited for automation technology.
3. Finally, justify the basic cost for such a system by demonstrating its overall benefits.

Data analysis is the first step in determining the requirements of any warehousing and distribution operation. Customer-provided data regarding the number of items/SKUs, product throughput rates and more are critical to AS/RS design. However, merely receiving the data is not enough. System designers must understand each customer's data in order to develop a design that will take advantage of the latest technology and generate the maximum savings possible.

Knowing the above information and verifying its accuracy are crucial to form an initial idea of whether or not warehouse automation is a good fit. By analysing the inventory data in more detail, you can determine the average inventory levels per SKU and divide these into logical groups. The following breakdown groups can be used as a guideline:

- Inventory levels per SKU of less than seven pallets – use single-deep storage.
- Inventory levels per SKU of 8-14 pallets – use double-deep storage.
- Inventory levels per SKU of 15 and greater – use multiple-deep storage.

With multiple-deep storage, considerable space savings are achieved, but selectivity is reduced. Therefore, you generally want to store the same SKU in a multiple-deep storage lane. Automated systems have an advantage in that they can re-warehouse pallets automatically as long as this work is not performed during peak shipping hours.

For most manufacturing operations, a small number of items typically account for 80 percent or more of the volume and inventory. So, how deep (storage lane depth) should these manufacturers store their inventory? Again, this depends on the inventory levels per SKU. Generally, high inventory item SKUs, or items with more than 30 pallets per SKU, are assigned to a storage block that is anywhere from 7-12 pallets deep. The rest of the items are assigned to another storage block that ranges from 2-6 six pallets deep. Of course, with automated systems each lane at every level is accessible. Compared to a drive-in or drive-through rack, it is obvious that an eight-deep automated high-density warehouse will result in a higher storage utilisation than a four-deep, three-high drive-in rack system serviced by conventional fork trucks. In the automated case, to get to the eighth pallet, seven pallets must be removed. In the conventional case, to get to the last three pallets, nine pallets must be removed.

Perhaps the most important statistical information concerns throughput. In conventional systems, throughput determines the staffing levels and the number of fork trucks required, whereas with automated systems, throughput determines the quantity of S/RMs required. One S/RM is usually capable of handling between 60-70 unit loads per hour when handling one unit load at a time. Systems handling two unit loads at a time are also available and can almost double that throughput per S/RM.

Cost justification

Assuming an automated warehouse is deemed to be a good fit, it is time to justify its cost by looking at the following elements: site conditions, labour requirements, inventory accuracy and control, and equipment usage.

Perform the justification of an automated system using discounted cash flow capital budgeting techniques. When using straight payback methods, the time value of money is rarely taken into account. To compound the problem, the benefit of having the automated system operate for its anticipated life of more than 25 years is ignored. Fortunately, determining the net present value (NPV) and the internal rate of return (IRR) is easy with today's spreadsheet programmes. These figures should justify the initial cost difference associated with installing an AS/RS versus building a conventional system. Compare both of these by establishing cash flow differentials between a 'base case' conventional approach and an automated approach, and then apply the cost differential to the cash stream that is generated to offset the investment. •

RFID, UVC bring safety to air flight baggage

By Claire Swedberg, courtesy RFID Journal

With a sterilisation system deployed at Chubu Airport, and with RFID readers to capture the tag IDs of baggage and carts, Japanese research group ARTA intends to offer safety and notifications to incoming passengers, reducing the risk of disease transmission.

TECHNOLOGY COMPANIES, under the leadership of Japan's NPO Airport RFID Technology Alliance (ARTA), have developed an Ultraviolet-C (UVC) light-sterilisation system, along with a baggage arrival notification system for passengers, to reduce the risk of COVID-19 transmission.

The solution's purpose is twofold: to sterilise bags and the carts that transport those bags, and to track data regarding where the bags are located as they move through the process. This enables airports to better ensure social distancing at carousels, the company reports.

RFID also creates an automatic record of when baggage carts are sterilised in order to provide information to passengers using the carts and to airport management. The system is being demonstrated at Chubu Airport, leveraging SICK software as well as UHF RFID tags provided by Toppan Forms, Sankei, Naxis and Avery Dennison. Denso Wave provided the readers. An app used by passengers on their mobile phones to receive baggage arrival information was developed by Saitama University, while Iwasaki Electric provided the UVC technology.

The demonstration began on 14 October and was expected to continue until 6 November. The results will be reviewed by participants until the end of the month, after which ARTA hopes to see a commercialised model deployed at major Japanese airports.

Keisuke Hatano, ARTA's Executive Director says that with the solution, COVID-19 infections can be prevented from entering an airport if proper screening is employed. "We have seen arriving passengers showing COVID-19 positive upon arrival testing," he says, so the risk to public health is not only from an individual who has tested positive, but also from their luggage. Hatano says that while there are no known cases of COVID-19 being spread on contaminated bags, the system offers a safeguard to prevent such an incident from occurring. "We should deal with all possibilities to make passengers, airport staff and local residents feel safe."

Some airports apply disinfectants to arriving baggage, though there is rarely any way

for airports or airlines to prove bags were disinfected. When a flight arrives at the airport, baggage is offloaded. For the demonstration, a UHF RFID tag is applied to every bag that does not already have an RFID tag built into its routing label. Delta and Hong Kong airports each universally use RFID tags, while other airlines and airports often rely on barcodes.

Every bag is moved through a sterilisation system, during which the luggage is placed on a conveyor that transports the bags through a 2.5m tunnel. Before it enters that tunnel, an RFID reader and an optical scanner capture data from each baggage tag by reading its unique ID number and scanning the barcode on the front of the label. If the system is deployed at other airports, the inclusion of barcode technology can ensure that a tag will be automatically identified whether or not it has an RFID tag.

The SICK software captures data from the tag reader and the barcode scanner, then links the ID to details regarding the bag and the passenger associated with its tag. Ultraviolet rays beamed onto the baggage irradiate bacteria and viruses, and a time stamp is updated to indicate the bag has undergone disinfection. At the same time, a message can be sent to the passenger's phone indicating the bag has been offloaded and is being disinfected, while also providing an estimated time of arrival at a specific carousel.

The app, developed by Saitama University, uses the college's server to deliver the data collected by the SICK software. Passengers wishing to use the app are invited to scan a QR code on a screen in the arrival section and to add their baggage tag ID. Passengers viewing that information can plan to visit a specific carousel, based on the luggage's ETA. The same data is also displayed on a screen in the passenger baggage carousel area for use by travellers not utilising their smartphone to access the data.

Next, the tag passes a second reader, a SICK RFU630 reader with three antennas, installed at the point at which the bags enter the carousel area. Again, a time stamp is linked to the ID number transmitted by each bag's RFID tag. The software forwards the collected data to the passenger's mobile phone, thereby notifying them that the luggage is ready for retrieval. Because passengers know approximately when to report to a particular carousel, there is expected to be less need for people to wait among crowds in the baggage receiving area.

A third RFID reader and antenna are dedicated to baggage carts, which are sterilised as part of the demonstration and provide sanitation after each passenger use. RFID tags are applied to the carts, with a QR code printed on them. Carts used by a passenger are then returned to a specified corridor, where they are moved through another UVC chamber. As each cart undergoes sterilisation, an RFID reader automatically captures its tag ID and the software updates the cart's status as sterilised. The cart is then returned to the arrival passenger pickup area for those who need it to move their baggage.

Before taking a cart, a passenger can use their smartphone to scan the QR code and view data about that cart's most recent sterilisation. Security check trays will be periodically put through the UVC sterilisation process as well, at regular intervals. Hatano says that once this is completed, ARTA's members, academic researchers and technology providers will evaluate the demonstration's results, which will be shared with airports, airlines and other companies willing to adopt the system.

Although the solution is currently being designed to both read RFID tags and scan barcodes, Hatano says the long-term expectation is for RFID tags to be ubiquitous on airline baggage. "We are looking to the future when all baggage will have an RFID inlay following the resolution at IATA AGM75." In the meantime, baggage tags without RFID will be read by the barcode optical-reading camera.

Hatano reports that since flights have been less frequent during the pandemic, the volume of baggage arriving at airports is expected to increase in the future as normal travel resumes. The solution, he says, is the first of its kind to combine UVC sterilisation and RFID to help passengers maintain proper social distancing. The goal is to more quickly restore normal international travel during the pandemic. •

Go green with a sustainable automated warehouse

Courtesy Westfalia

More and more firms are finding that automating their warehouses and distribution centres offers a great way to go green while adding efficiencies and savings to operations.

SUSTAINABILITY OR going green is an important business goal as everyone understands the importance of minimising the environmental impact of business. Efforts at reducing carbon emissions, recycling and purchasing green products serve as common examples of ways in which many businesses try to be more eco-friendly. However, more and more firms are finding that automating their warehouses and DCs offers a great way to go green while adding efficiencies and savings to operations. In many ways, going green can change accounting ledger entries from red to black.

How is that possible? A modern automated storage and retrieval system (AS/RS) offers designs that adapt to most business models and product characteristics. The firm's historic operational data projected to a design year determines the best layout options, not a standard one-size-fits-all approach. Hybrid designs have the ability to store products single-deep, double-deep or up to 12 loads deep in the rack structure as well as use a single crane or two in any aisle. These design tools allow logisticians to create solutions that fit the customer's business and do so in an environmentally friendly way.

Improvements in structural design and motor drive technology make it possible to handle multiple loads (pallets) at a time on one storage and retrieval machine (S/RM). This allows designers more flexibility to provide higher or lower performance in an aisle.

These operational benefits are the key selling points of AS/RS. Less well known, yet equally important, are the environmental benefits that automation provides. Three primary green outcomes are less land use, lower energy consumption and reduced hazardous waste production.

Land use

Automated warehouses and DCs require a smaller building footprint. On average, AS/RS use translates to reductions in square footage requirements by 40 percent or more when compared to conventional warehouses storing equivalent product inventories. So, when planning to construct a new facility, the amount of land needed will be less, decreasing the environmental impact.

Businesses with existing structures contemplating expansion via a building addition or a new facility can forgo construction expenses and additional land use by installing an AS/RS and leveraging existing space more efficiently. Beyond lowering costs, there is less environmental damage and more opportunities to incorporate green space.

The reduced space requirements are due to several factors. First, the AS/RS allows flexibility in terms of the height, length and width of the storage area. Plus, multiple-deep storage lanes make even denser storage possible. Deeper lanes translate to fewer aisles, and aisles occupy a lot of warehouse space that could be used for other purposes including product storage. Minimising aisle requirements while concurrently integrating infeed and outfeed conveyors and pick tunnels

into the AS/RS allows unused space to be used for production and other purposes. Repurposing space demonstrates yet another way in which automation reduces building size requirements, decreases environmental impact and lowers operating costs.

Energy consumption

Automated warehouses require less energy to function. Reductions arise from fewer interior lights, less space to heat and cool, and the energy savings made possible by using S/RMs fitted with re-generative braking. Many refrigerated warehouses experience a 40 percent reduction in overall energy costs due to minimal lighting requirements, fewer openings to warm areas and a generally smaller ceiling area, which reduces cooling loss and refrigeration tonnage needed.

Additional savings are possible by using S/RMs outfitted with regenerative braking. The principles of physics assert that when an electrically powered object is in motion and comes to a halt, electrical energy is generated, turns into heat and disappears. S/RMs equipped with regenerative braking allow you to store surplus braking energy or transfer it to the power grid for use by other machines operating on the same grid. Rather than let the energy go to waste, regenerative braking converts that energy and makes it reusable.

Waste production

In conventional warehouses, waste is generated from products damaged in handling, accommodations made in product wrapping and other byproducts associated with forklift use, such as damage to the building and rack systems as well as battery use. Another often overlooked source of waste is from human errors in order picking. Each mistake has an environmental impact manifested in labour, fuel, repackaging and shipping costs.

Eliminating fork trucks reduces product and infrastructure damage. The AS/RS retrieves and transports pallets smoothly across the system through the use of S/RMs and conveyors. Their use also prompts less stretch wrap consumption as securing the pallet is not as great a concern. This reduces non-decomposing plastics in our landfills. Worker safety benefits too since employees do not have to enter the racks.

As mentioned previously, damage – and waste – is an accepted consequence of forklift use that has an environmental impact as do the batteries that power them. Battery charging stations expend energy, and battery replacement means the old batteries will add to our landfills. Depending on battery construction, another ecological concern could be hazardous waste and its deleterious environmental effects.

Today's business leaders see the green attributes of warehouse automation – and the financial gains that being environmentally responsible can carry. For them, being green is putting them in the black through lower costs and a more competitive marketplace posture. Warehouse automation supports the principle that it is possible to do good while doing well. •

Mastering the Supply Chain

What is the supply chain, and why should we bother to study the topic at all? Explore the fundamentals of the supply chain and understand its role within the context of a company.

MASTERING THE Supply Chain is an introduction to supply chain management. Combining theory with practice, it covers a range of important supply chain topics and points out challenges and practical ways to overcome them in real company situations.

This book puts you, the reader, in lifelike situations, so that you can experience the impact of every decision you make, not just in your own 'silo' but across the business. In this way, you learn that many supply chain concepts are relatively simple to understand, but not so easy to apply in real life. By the

end it helps you to pull everything you've learned together and see how the concepts play out in the real world by guiding you through an interactive demonstration of the online business simulation game, The Fresh Connection (free access is included with the book). This game allows you to study the effects of key supply chain decisions on the example of a fruit juice supply chain.

A sneak peek into the first chapter reveals answers to the questions 'what is a supply chain?' and 'what is the importance of the supply chain?'. While there are many ways to answer these questions using statistics on supply chain expenditure on a company or country level, this chapter delves into examples of what happens if the supply chain doesn't work properly.

The chapter also takes a look at:

- The role of the supply chain within the context of a company.
- Some definitions of the supply chain and related terms.
- How big your supply chain would need to be.
- The impact of the size of a company.
- The building blocks of the supply chain.

This is a key text for students on supply chain management BScs and MScs as well as background reading for students playing the full version of The Fresh Connection Business Simulation game. •

New skills needed to manage supply chain distribution

Courtesy www.bizcommunity.com

ACCORDING TO Greta Froise, founder of online supply chain training company Bizzco, new routines, structural changes and a massive shift in consumer behaviour since the onset of the COVID-19 pandemic have disrupted traditional distribution management systems. Simple linear supply chains have now been replaced by complex consumer-centric networks. New skills sets and new learnings are essential for organisations wanting to thrive in the 'new normal'.

"The pandemic has really just accelerated trends such as globalisation and increased competition that started over 10 years ago," says Froise. "Over recent months, we have seen many of the current ways of managing supply chains quickly break down. Shortages of products – including essential goods – have shown us just how fragile some of our supply chains are when they encounter disruptions in supply and demand."

Froise says that while organisations have excelled at getting the basics of supply chain right, there are a whole new set of skills they need to effectively manage distribution in our volatile, uncertain, complex and ambiguous (VUCA) new world:

- **Planning and forecasting:** Traditional planning and forecasting tools and techniques are simply not enough to manage the unpredictable spikes in supply and demand.
- **Warehouse management:** The surge in demand for same-day, home deliveries and the growth of new distribution channels are developments for which traditional warehousing systems were unprepared.
- **Transport and logistics:** Distributors were largely unprepared for the exponential rise of new distribution models, such as direct delivery to consumers.

"Mastering distribution management is now a key differentiator for organisations. With distribution management skills in short supply, there is a real need for organisations to train and grow the skills they need," concludes Froise. •

NextGen Supply Chain Conference

THIS YEAR'S virtual conference taking place from 10-12 November answers: "what's next for supply chain management (SCM)?" for senior-level SCM professionals, with a focus on artificial intelligence, robotics, and digital transformation. Key themes include supply chain innovation, the future of supply chain technology and meeting the e-fulfilment challenge.

There will be four keynotes from industry heavyweights GE Appliances, Lenovo, Vodafone and Joann Stores and 36 senior level supply chain executives will share their knowledge and experience.

With live-streamed sessions, interactive panels and real-time chats, attendees will gain insights and real-world solutions, preparing executives for the coming technologies and processes that will have the most transformative effects on their supply chains. •

Future of warehousing lies in sustainability

COUNTLESS BUSINESSES are adapting their operations to reduce the impact on the environment and the material handling and warehousing sector is no different. It is in the midst of a tech-driven revolution to identify and adopt emerging technologies that minimise its carbon footprint, while optimising operations, decreasing costs and improving overall supply chain efficiency.

The considerable amount of energy required for heating, cooling and lighting, as well as operating material handling equipment (MHE) in warehouses represents about 20 percent of companies' overall logistical costs. Around 11 percent of the total greenhouse gas (GHG) emissions generated by the logistics sector across the world are caused by warehousing activities.

Over the past two decades, battery-powered equipment has started to replace its more conventional internal combustion counterparts, with the advantages far outweighing the cost of investment. Apart from being an environmentally-friendly alternative, changing legislation around food safety and safe working environments in South Africa and the world are pushing sectors that use material handling equipment to invest in battery-operated equipment to remain compliant.

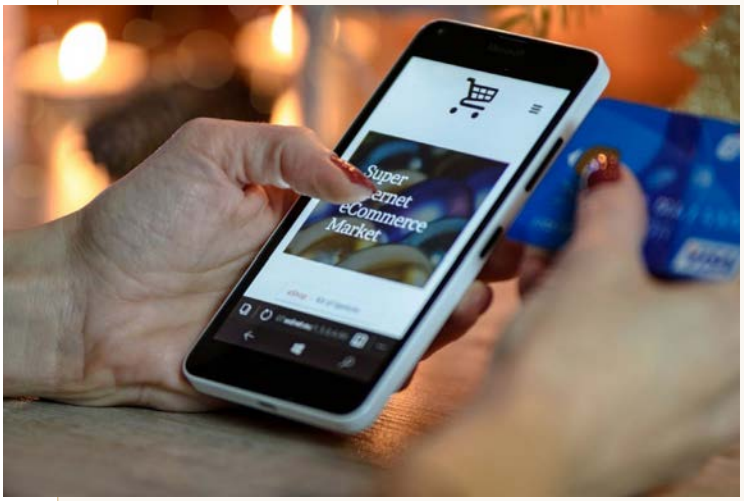
New technologies such as lithium-ion battery technology are becoming commonplace in battery-powered equipment and translating into a drastic increase in optimising the efficiency of operations.

For the majority of applications, a battery-powered forklift can replace a diesel unit with no impact on the operation. The major benefit of this shift, apart from noise reduction and elimination of emissions, is the immense cost-saving the customer can realise The reduction in running costs and maintenance of battery-powered equipment will result in a significant cost-saving over the lifetime of the product. •

Adapting to the 'new normal'

By Andrew Dawson, courtesy bizcommunity.com

THE SUPPLY chain, particularly in the fast-moving consumer goods (FMCG) industry and especially in South Africa's informal market, has traditionally relied heavily on interpersonal contact for ordering and fulfilment. When the COVID-19 pandemic hit, the industry was turned on its head. With the traditional means of engagement between salespersons and retailers off limits, demand for technology has accelerated.



The ordering process has had to be completely overhauled as sales reps are not able to visit stores to establish stock levels and to replenish. It has become essential to empower retailers to do this for themselves, and an ecommerce style platform is ideal, especially if it can be enabled for mobile. Mobile technology implementations offer a solution that not only addresses the challenges but also adds value to improve efficiency throughout the value chain. The mobility aspect is key, particularly when it comes to reaching spaza shop owners in the main market and consolidating order generation to a single point.

The entire supply chain can, in fact, be driven online, and mobile technology, supported by the call centre as a fundamental communication platform, can create a seamless and user-friendly experience. •

Drones help boost healthcare supply chains in Africa

HEALTH WORKERS serving remote communities in the Democratic Republic of Congo (DRC) must often undertake a six-day return journey to collect vaccines, traversing dense tropical forests and the Congo River and its tributaries. Drone technology is offering a lifesaving solution to the challenges, including helping to ensure that cold chains are maintained and vaccine quality is not compromised.

Freddy Nkosi, DRC country director for VillageReach, an NGO, says the Drones for Health project is focused on getting vaccines and supplies to hard-to-reach rural communities. In the DRC, with funding from Gavi (The Vaccine Alliance), VillageReach, in partnership with the Ministry of Health and the Civil Aviation Authority of the DRC, is using drones to transport vaccines and other supplies to isolated villages and communities.

Nkosi says the project is being piloted in the DRC's north-west province of Équateur. "This province has 18 health districts, more than half of which are only accessible by river. This makes the supply chain and transportation of vaccines from the provincial storage to the remote health storage facilities exceedingly difficult, especially during the rainy season when there is often flooding."

A round trip to the Équateur province, which involves taking a non-motorised boat down a river, can take up to six hours. The drones completed the one-way journey in just 20 minutes. Nkosi explains that the drones are only being deployed for the hardest-to-reach locations in the DRC. Since the drones do not include cameras, Nkosi says privacy is not an issue, and to date, there have been no safety problems,

Nkosi believes that it is only a matter of time before many countries and communities adopt drones for deliveries, even in urban areas. He says that in the DRC's capital Kinshasa, the blood transfusion service is exploring the use of drones for urgent deliveries of lifesaving blood due to the city's poor infrastructure and traffic congestion. •

The global rise of dark kitchens and stores

Courtesy www.bizcommunity.com

BEHIND THE doors of a warehouse in Wynberg, Johannesburg, food is being prepared exclusively for delivery. There is no restaurant space, instead, a company called Collective Kitchens is managing a fully-equipped venue that can cater to more than one restaurant brand simultaneously, from the same space. This delivery-only restaurant is known as a 'dark' or 'ghost' kitchen, and it's a real estate trend that is gaining traction worldwide.

The restaurant and grocery sector has been forced to adapt, or die, as a result of the coronavirus outbreak. Around the world, pubs, cafés and restaurants closed in line with government lockdowns and delivery instantly became the go-to essential way for operators to maintain an income stream.

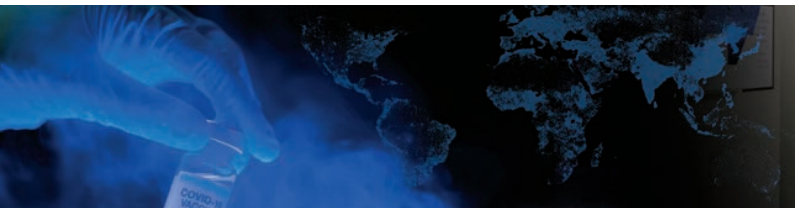
While businesses are now reopening, the fear of contagion prevails, and operators are generally not in a financial position to immediately return to business as usual. The cost of setting up and running a dark kitchen is 30-50 percent less than for a traditional restaurant, so it's obvious why it's an attractive option for struggling or emerging businesses.

The need for delivery isn't limited to meals. With many people still self-isolating, the delivery of groceries has become an essential service and the long-term impact of online delivery of groceries is expected to have a considerable impact on commercial real estate. Before the pandemic, a small but growing percentage of South Africans bought their groceries online. This number has since escalated, with grocery delivery services seeing a dramatic spike in demand.

The cost of delivering groceries from central warehouses is estimated to be double the cost of delivery from smaller micro-fulfilment warehouses. Grocers around the world are therefore seeing the financial benefits of these so-called dark stores. Large South African retailers whose centralised DCs are unable to handle end-user customer deliveries are also opting for smaller dark stores in industrial locations near suburban areas. •

Vaccine distribution will pose major cold chain risks

Courtesy **Freight News**



SINCE THE first cases of coronavirus were detected in China last year, scientists and medical professionals have been racing to find a vaccine. But, as the medical fraternity edges closer to a vaccine, it is becoming increasingly clear that the saviour of lives will be the logistics industry. A recently released white paper, published by DHL and McKinsey & Co, has underscored the complexities of distributing a sensitive, temperature-controlled vaccine in unprecedented quantities around the world.

Around the world experts are saying that the distribution of the COVID-19 vaccine will be one of the greatest logistics challenges ever, not only from a cold chain perspective but also as a high-value commodity that will be highly sought after.

Currently there are some 250 candidates for a COVID-19 vaccine in various stages of development. According to the DHL report, the diversity and novelty of these potential vaccines raises multiple questions from a logistics perspective. Firstly, say those in the know, it is a scale problem. Shipping and administering 100 vaccines to 100 people is easy enough, but distributing five billion vaccines to five billion people is totally another considering that the current world logistics network is simply not capable of doing it.

Making the matter even more complex is that the frontrunners in the vaccine trials are increasingly saying that once developed and approved, two doses will need to be administered to all people 21-28 days apart, effectively doubling the logistical challenge. Also, it is believed that the vaccine will have to be stored at temperatures of around -68°C – far colder than the requirements of most vaccines that can be shipped at refrigerated temperature or a wider range of freezing temperatures. Practically, this means vaccines will only be able to be distributed by a subset of the cold chain logistics infrastructure, which is already a subset of the overall logistical capacity.

Around the world logistics companies have already started investing in and upscaling their cold chain infrastructure. Even under aggressive assumptions, both the availability of suitable packaging and the maximum allowed quantities of dry ice in air cargo transport could potentially limit shipment. •

Zero tolerance to cargo theft

Courtesy **Freight News**

Recent research by the Transported Asset Protection Association's (TAPA) Incident Information Service reveals that over 85 million euro's worth of products were stolen from air, road, sea and rail freight supply chains in 46 countries in the Europe, Middle East and Africa (EMEA) region in the first half of 2020. Experts predict a continued increase in cargo theft. In light of this 'new normal', there are steps companies can take to reduce risk, according to World Net Logistics Chief Executive Officer Dirk Goedhart.

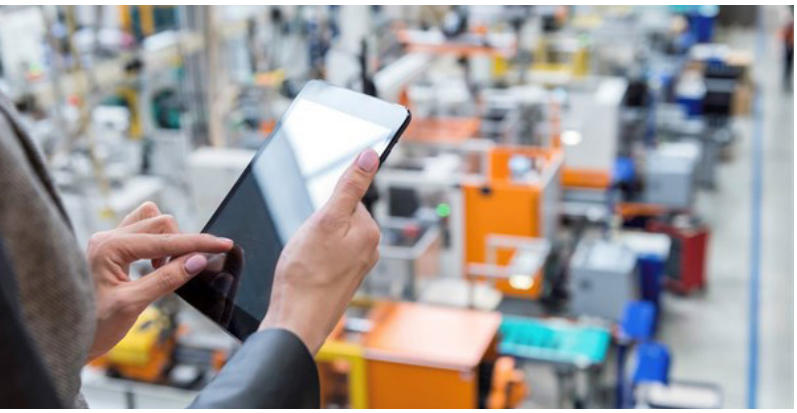
1. We constantly train our team and have ongoing awareness campaigns around how to react should our people ever be in a compromised position.
2. At some point your organisation will be targeted. Make sure you partner with a reputable company that has the experience, expertise and resources to move high-value cargo.
3. In tough times it is easy to cut corners to try to save costs. Avoid doing this, specifically given the hardships that will play out in the next 12 to 18 months.
4. As the challenge is more local than global, ensure that your freight is transferred to a high-security facility as soon after aircraft touchdown as is practically possible.
5. Ensure strict adherence to the vetting of personnel who are expected to deal with high-value cargo.
6. Educate yourself about the policing mechanisms and forums that deal with organised crimes and keep your finger on the pulse.
7. Make sure that your insurance policies are adequate and updated to include your specific requirements. Adhere to what is prescribed in order to have a safety net.
8. The reaction time and speed at which incidents are followed up and investigated is linked to the successful recovery and outcome of any incident that occurs. •

New partnership to expand e-logistics technology solutions across Africa

Courtesy www.bizcommunity.com

PROVIDER OF integrated market access and logistics solutions Imperial has announced an investment in, and partnership with, Lori Systems to expand its e-logistics technology solutions across Africa. This strategic partnership is the first of its kind at this scale and scope on the African continent.

The partnership between Imperial and Lori Systems will provide additional support in Lori's established East and West African markets and facilitate Lori's expansion across Southern African markets. It will also combine Lori's technology and Imperial's expertise in logistics to drive similar efficiencies in Southern African markets.



The Imperial Venture Fund, managed by Newtown Partners – a US venture capital firm, recently concluded an investment in Lori Systems to support its growth in East and West Africa. The Imperial and Lori Systems partnership in the Southern African Development Community (SADC) region will help develop and enhance Africa's road freight industry through digital innovation and enablement.

Imperial will have access to Lori's proprietary platform through this partnership, providing shippers and transporters in Southern Africa with access to a flexible suite of software applications and data. This will lead to more efficiently managed operations and fleets, resulting in tangible cost savings. •

Coega's R380m projects taking shape

Courtesy **Freight News**

THE COEGA Development Corporation (CDC), the developer and operator of the Coega Special Economic Zone (SEZ), has three projects underway, collectively valued at about R380 million. They have created about 290 construction jobs so far.

They include the African Port Logistics and Infrastructure (citrus sector) valued at R264 million, the expansion of the Coega multi-user facility valued at R71 million and the DHL Logistics Facility (logistics sector) valued at R156 million – all of which form part of the Eastern Cape's economic priority sectors.

The multi-user facility (phase two) is located in Zone 3 of the Coega SEZ. It is currently under construction, with over 151 construction jobs created so far. The 7,000 square metre facility is a replica of phase one, which is now fully occupied. "It seeks to provide affordable industrial space for many small-to-medium companies, especially entrepreneurs wishing to grow their businesses. Since the establishment of the multi-user facility, it has provided local people with employment in the construction industry," the CDC said.

Siphokazi Xakana, a building student from the Coega Skills Centre who is currently a bricklayer at the construction site, said the skills she had obtained during her employment on this project had helped her to grow as a young female in a male-dominated industry.

The African Port Logistics and Infrastructure project will see the development of a fruit packaging facility, fruit cold storage and a container depot, while the DHL Logistics Facility will occupy a total of 11,400sqm and will see the development of a warehouse and offices. •

The Coega IDZ offices in the Eastern Cape.

Dangerous goods: Training must be held to a higher standard

Courtesy **Freight News**

STAYING UP to date with regulations around the movement of dangerous goods is not just complex, it's downright daunting, says Willie Nel, Managing Director of ZacPak. "Regulatory compliance is critical to an organisation's ability to maintain a smooth supply chain. Yet with growing volumes and types of dangerous goods, increasingly complex supply chains and more extensive regulations, many industry professionals are finding it challenging to do their jobs effectively and efficiently," he says.

"While carrying dangerous goods, there is a risk of an incident due to the fault of other traffic participants, climatic conditions, badly chosen packaging materials or lack of marking. In the transportation of this cargo, it is impossible to avoid risk; however, it is possible to manage and reduce risk to a minimum," he says.

"Transport is always associated with human risk factors that cannot be completely excluded. Transportation of dangerous goods requires the most stringent safety measures and may negatively affect environment, human health and material possessions." Nels says that nowadays insufficient attention is paid to domestic routes along which dangerous goods are being transported. "In most cases, the shortest route is selected without evaluating the possible consequences of an accident.

Transportation of dangerous goods requires special and constantly updated knowledge that is relevant to all of participants in the process – consignors, loaders, warehouse workers, carriers and consignees. Special attention should be given to their training and development," says Nel.

Regarding technology, Nel says that automation in some form is part of the process to support operations. "It boils down to a clear set of data that provides a clear view of the big picture while identifying bottlenecks, risks and a lack of resources," he says.

"You want to simplify and support the process, not overcomplicate it. "Whether you're transporting dangerous goods by sea, road, rail or air, the human factor is ever present. This has been identified in several studies as one of the main risk culprits when evaluating potential issues in transporting dangerous goods." •

US opens new ports to SA citrus exports

Courtesy www.bizcommunity.com

THE UNITED States government has announced the opening up of several new ports for the import of citrus products from South Africa, further facilitating two-way trade with South Africa. The US Department of Agriculture's Animal and Plant Health Inspection Service published a final notice in the US Federal Register on 5 November, approving the use of additional ports options for SA citrus growers.

Previously, the South African citrus industry was limited to only four ports and had long sought access to other US ports. Now exports will be allowed to any US port that has cold storage facilities, including the strategically important ports of Charleston, South Carolina and Savannah, Georgia.

US Ambassador to SA Lana Marks says, "The opening of these new ports of destination for citrus, a move the US Mission in South Africa has been advocating for, will help facilitate trade between our two countries, providing flexibility to US retailers and wholesalers, lowering transportation costs and broadening the reach of South African citrus to other regions within the US market."

Justin Chadwick, CEO of the South African Citrus Growers Association, says, "The opening up of all ports to South African citrus fruits means that this high quality fruit can now reach many more consumers in the United States. We would like to thank all those who made this possible, including the US Embassy and the South African Embassy in Washington."

In 2020, according to Summer Citrus from South Africa, South Africa shipped a record amount of over 77,000 tons of citrus to the US, 68 percent more than in 2019. South African farmers ship citrus duty free to the US under the African Growth and Opportunity Act (AGOA) trade preference programme. •

Plan ahead for the festive retail surge

Courtesy www.bizcommunity.com

THE HOLIDAY gifting season offers hope for retailers emerging from lockdown. With confidence in e-commerce higher than it's ever been, it's critical that stores stock up, staff up and get their shipping systems ready for the rush.

The October-December period is usually the peak period for many businesses, but with stores now emerging from COVID-19 lockdown, it's more important than ever that they focus on seasonal planning to ensure smooth and profitable operations as they look to rebuild following the recent restrictions on trade and movement.

Now is the time to rebuild and put measures in place to keep up with the expected growth in orders. From cash flow to continuous customer engagement, effective planning and preparation are critical to meet the sales demand in the run-up to what is likely to be a celebratory holiday season.

FedEx Express offers the following insights for businesses wanting to prepare for the festivities and to successfully manage this upcoming peak period:

1. Consider hiring seasonal staff to support the rise in customer demand

"Having seasonal staff to focus on important tasks, such as sales and customer service, will ensure your core team can continue to manage business operations without service levels falling," says Taarek Hinedi, VP Middle East and Africa operations at FedEx Express.

2. Pre-planning is critical to manage supply and demand, and cash flow

While the festive season brings increased sales, it also results in additional costs for items like additional staff and resources to ensure deliveries reach customers on time. Retailers also need to purchase stock in advance to ensure they have enough product on hand to fulfil orders. "Having a forecast based on previous years' sales will help you to manage cash flow more efficiently to identify new or growing revenue streams," says Hinedi.

3. Maximise sales by collaborating with customers and service providers

"During peak periods, it's essential your business is fully equipped with the resources so that every opportunity for a sale is picked up and processed – from the initial order, through to final delivery," Hinedi explains. •

Local e-commerce community shares preferred service providers

Courtesy www.bizcommunity.com

THE RECENTLY released Insaka eCommerce Playbook offers insights into how South African e-commerce companies set up and run their businesses and lists the software and service providers they prefer. The playbook was created with input from the Insaka eCommerce Academy's 14,000-strong community, who voted through a series of polls. The crowdsourced e-commerce recommendations from the community were then collated into a free directory.

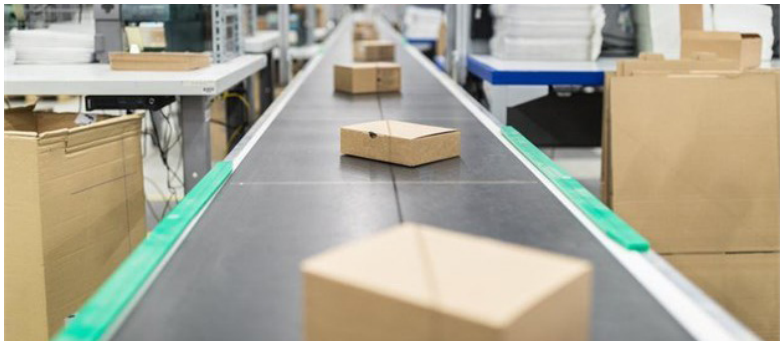
According to the Insaka eCommerce Playbook, South African online sellers favour PayFast when it comes to selecting a payment gateway. They rate The Courier Guy for local deliveries and DHL Express for international customers, and they make use of uAfrica when it comes to order fulfilment software and Mailchimp for email marketing. When they are looking for a business banking offering, they most frequently turn to FNB.

Creating the Playbook directory was, for Insaka founder Warrick Kernes, the culmination of an ambition to produce an objective and useful tool for those new to the e-commerce world. It is also a handy guide and reference point for established sellers keen to keep up with industry trends and the supplier choices being made by others in the growing e-commerce sector.

Playbook highlights include:

- 64 percent of respondents to the Insaka Playbook poll use the Dropstore shipping app.
- 69 percent prefer to source their Chinese goods from Alibaba.
- 57 percent opt for PayFast when it comes to choosing a payment gateway.
- 52 percent source their boxes, tape and other packaging materials from Merrypak.
- 58 percent recommend the services of Aramex for their freight forwarding needs.
- 77 percent use WhatsApp's on-site chat software.
- 39 percent recommend the services of ROI Solutions for digital marketing.
- 55 percent single out Takealot as the best local marketplace on which to sell.

Access the complete Insaka eCommerce Playbook for free at https://www.insaka.co.za/playbook. •



Bidvest Mobility helps customers plan for peak season

BIDVEST MOBILITY is working closely with its customers to ensure that that they have the necessary mobile computing and barcoding technology in place to support their supply chains during the peak season. COVID-19 has made predictions and processes more complex as the supply chain has had to gear up for a large increase in online sales, as well as ensuring a contactless and safe experience for both staff and customers.

According to Simon Grisdale, Managing Executive at Bidvest Mobility, mobile computing and barcoding devices play a key role in the smooth operation in each stage of the supply chain. "The first step is to ensure that all equipment is operational and there are sufficient stock levels of media supplies, such as labels and ribbons to mark all the products," he advises.

During COVID-19, there has been an uptake of Bidvest Mobility's Asset Control software, which manages all mobile devices and accessories in an operation as items are issued to a specific user in order to create a chain of custody to track and trace devices in real-time. This can include barcode scanners, mobile computers, label and barcode printers, headsets and other accessories and devices.

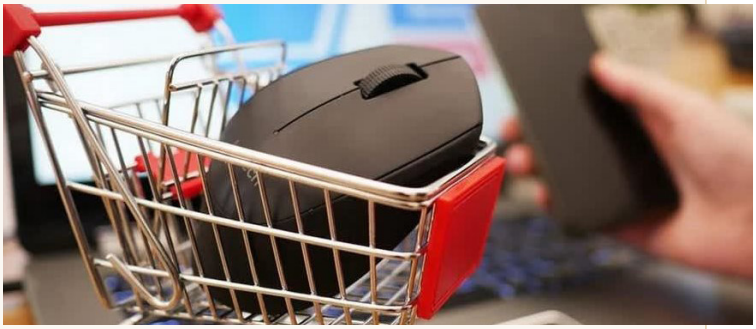
Grisdale said that a new cleaning module has been added to the software solution to ensure the traceability of the cleaning of all mobile devices as they are used by different operators during shifts, especially important during COVID-19. •

bidorbuy, uAfrica launch aggregated shipping service for sellers and buyers

Courtesy www.bizcommunity.com

BIDORBUY HAS strengthened its shipping offering with an easy-to-use facility that will source quotes from leading courier companies and offer the most competitive rate at the time of shipping. The platform, called bidorbuy Shipping, is made possible through a partnership with uAfrica.com, a technology company that assists online merchants with omnichannel solutions, streamlining their order-fulfilment and shipping processes. bidorbuy Shipping will generate electronic shipping labels at the click of a button, while payments for the service are made through a bidorbuy account, meaning simpler, safer shipping all around.

For smaller, independent and localised merchants who trade on platforms such as bidorbuy, the order-fulfilment process has up to now differed from one merchant to the next because a standard shipping facility wasn't built into the offering. "But that is changing," says Craig Lubbe, CEO of bidorbuy. "Consumers in South Africa are now comfortable with selling or buying online, and with that comes an evolving set of needs and expectations, one of them being a commitment on how shipments are delivered and at what cost."



In a quick and easy four-step process, the bidorbuy seller may log in, navigate to the selling section, click on 'Sign up with bidorbuy Shipping' and follow the on-screen prompts. uAfrica.com's aggregating facility ensures that the buyer gets bang for their buck, but also allows the seller to maximise their profit on each transaction. And because sellers no longer have to continually follow up on each shipment and pass on the information to buyers, they now have more time to focus on their core offering – selling their product.

For buyers, shopping remains the same, but now, once they've placed an order with a seller who is registered to the service, they'll receive an email listing their purchase delivery tracking details. Both the buyer and seller will receive automated shipping/tracking updates throughout the delivery process. •

Directory of supporting industry associations

CILTSA
Chartered Institute of Logistics and Transport SA
011-789-7327 • www.ciltsa.org.za

CIPS
Chartered Institute of Purchasing and Supply Southern Africa
012-345-6177 • www.cips.org/southernafrica

CSCMP
Council of Supply Chain Management Professionals SA Round Table
011-678-1820 • www.cscmp.org

RFA
Road Freight Association
011-974-4399 • www.rfa.co.za

SAAFF
SA Association of Freight Forwarders
011-455-1726 • www.saaff.org.za

SAEPA
SA Express Parcel Association
info@saepa.org.za • www.saepa.org.za

SAIIE
Southern African Institute of Industrial Engineering
011-607-9557 • www.saiie.co.za

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