

The real cost of pallet wrap.



**Value analysis of the
stretch wrap roll.**

How you pay.

Why you pay.

What you should.

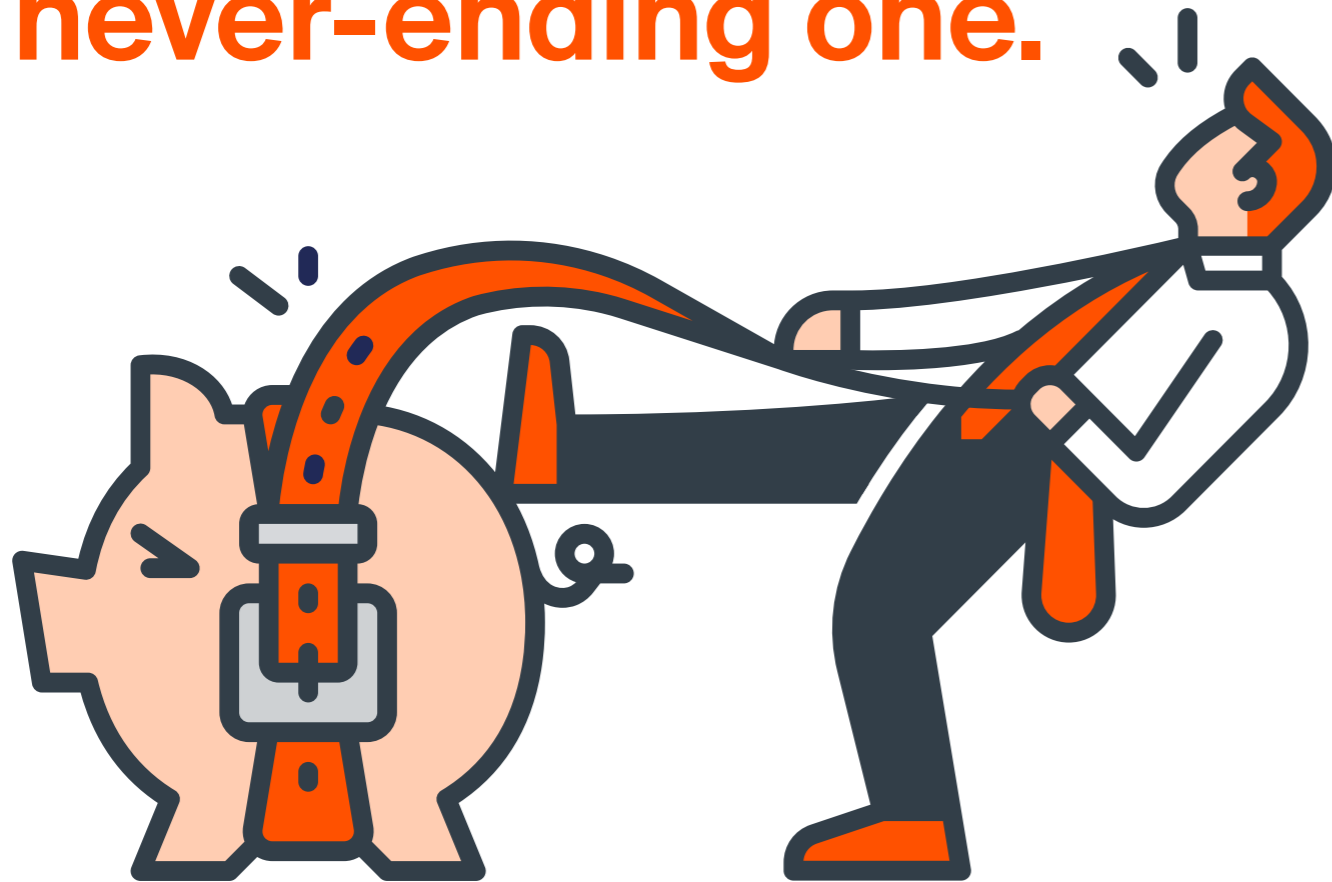
The real cost of pallet wrap.

A white paper from **Universal Packaging**

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The race to cut costs and improve efficiency by New Zealand's distributors is a never-ending one.



With the consistent pressure to improve the bottom line many procurement managers are often compelled to make difficult decisions. The results of such decisions can, while making gains in the short term, actually lead to far greater costs in the medium and long term.

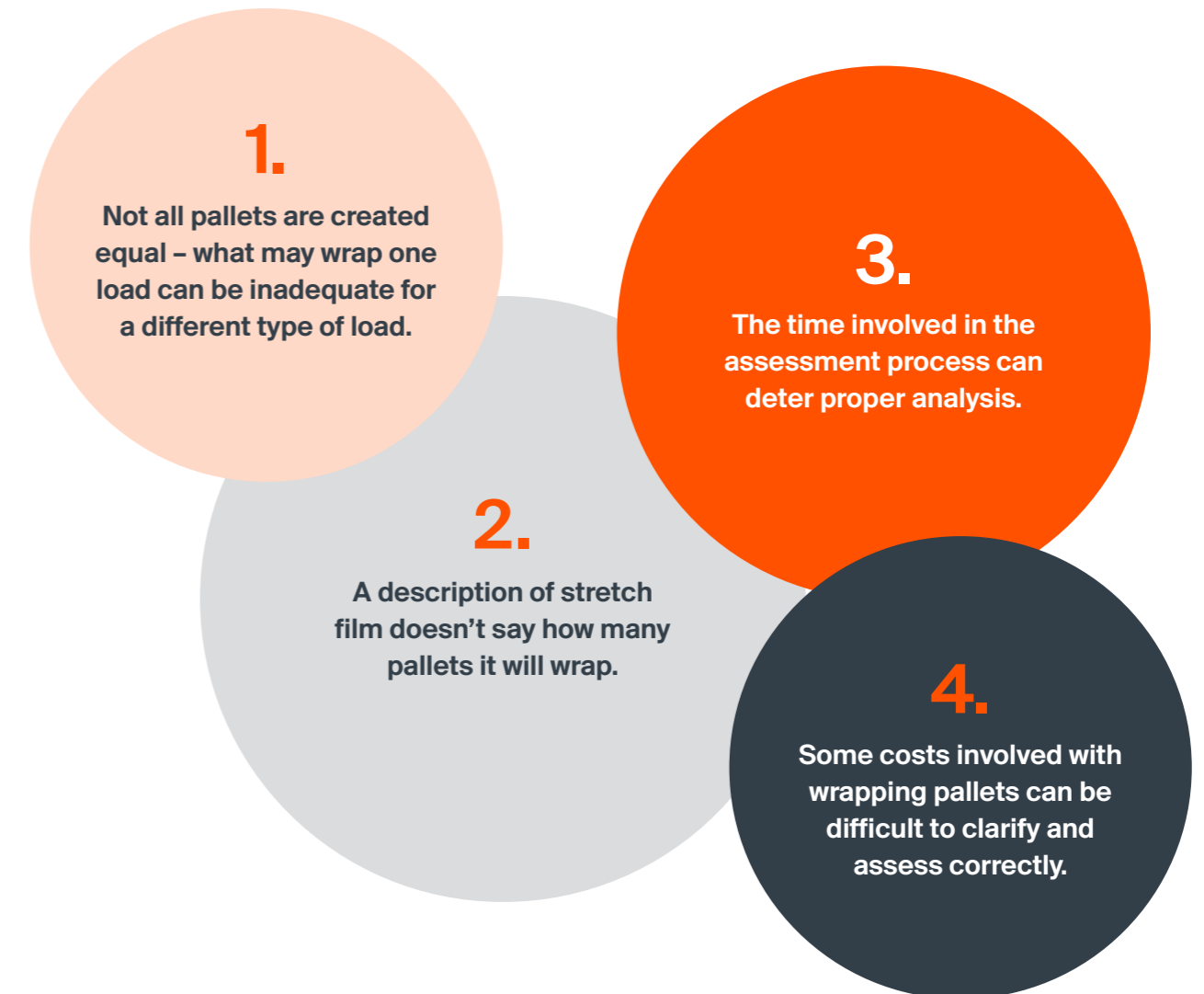
There are several reasons for these situations occurring. A move in leadership, a change in staff or pressure from other stakeholders may initiate a desire for improvement or, at the very least, a review

on process, product and budget. So too is an optimal change often missed due to the difficulty in delivering clear, actionable information.

In this white paper we analyse key factors behind the decision-making process, establish how testing can provide greater market confidence in purchasing decisions and assess the impact of different approaches to pallet wrap purchasing decisions.

With this analysis we seek to provide a clearer understanding as to why correct and consistent measuring processes and purchasing decisions are so important to New Zealand's distributors.

These four factors are major considerations in determining the true cost of pallet wrap.



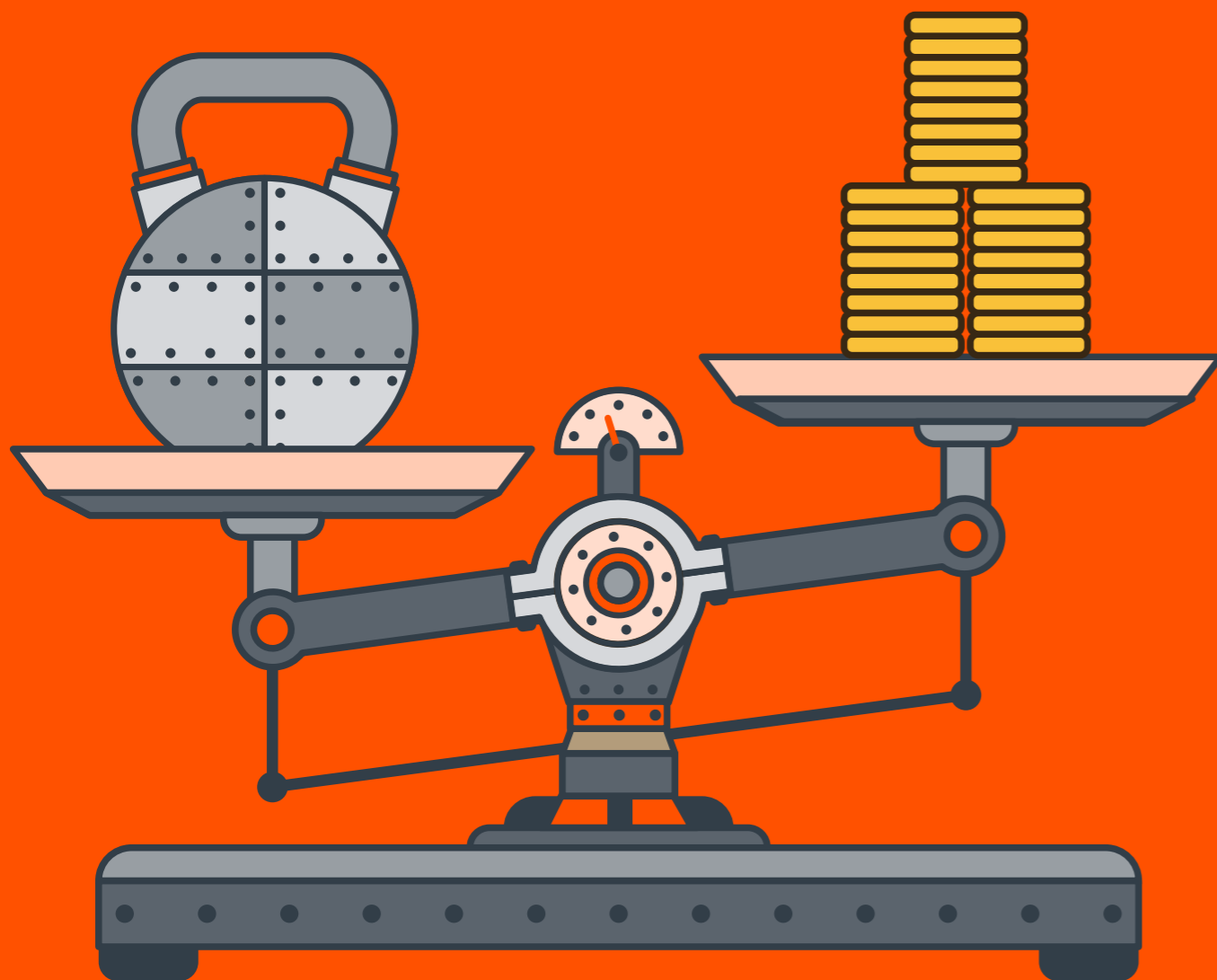
The key issue:

There are no easy labels explaining how many loads a roll of stretch wrap might contain. Pallets come in all shapes and sizes and need to be wrapped accordingly. The product's description therefore cannot provide a clear figure as to how many pallets can actually be wrapped with each roll.



Real value versus perceived value

‘Real value’ is how much a product costs, how useful it is and how much value it actually provides. ‘Perceived value’ is an altogether more abstract amount representing how much people feel a product is worth.



To assess the true value of pallet wrap we must first understand how purchasing decisions can be affected by both the inherent and acquired value of a product.

There are two types of products that are generally acknowledged as being worth investing ‘extra’ in:

A: Products that have a lot of use in everyday situations, with any inferiorities delivering either long term discomfort or an unsafe situation, e.g. mattresses, shoes, furniture, tires.

B: Products required to deliver guaranteed performance in testing circumstances, i.e. tools, sports equipment, camping gear.

The perceived value of a product can be heightened in the eyes of the consumer to where it may take on the attributes of A and B above. Often this may occur through good design or advertising, or due to the repetition of messaging, for example ‘diamonds are forever’ or ‘breakfast is the most important meal of the day’.

Other times creating a heightened emotional response in the buyer can increase the perception of value.

Facing a potential famine and with the population reluctant to grow certain crops, Frederick the Great decreed the humble potato a ‘royal vegetable’ and purposefully set in place relaxed security around his crops. By heightening the perceived value he ensured the peasant class would begin to covet these crops and grow them, lessening the risk of famine.

If it is accepted that pallet wrap can occupy both A and B then, at the very least, any purchasing decision must be carefully assessed. Without acknowledging the importance of this value a ‘penny wise but pound foolish’ approach can lead to a poorer outcome. The ‘boots theory’ provides one perspective of how this occurs...

The Boots Theory



“The reason that the rich were so rich, Vimes reasoned, was because they managed to spend less money.

Take boots, for example. He earned \$38 a month plus allowances. A really good pair of leather boots cost \$50. But an affordable pair of boots, which were sort of O.K. for a season or two and then leaked like hell when the cardboard gave out, cost about \$10. Those were the kind of boots Vimes always bought, and wore until the soles were so thin that he could tell where he was in Ankh-Morpork on a foggy night by the feel of the cobbles.

But the thing was that good boots lasted for years and years. A man who could afford \$50 had a pair of boots that’d still be keeping his feet dry in 10 years’ time, while the poor man who could only afford cheap boots would have spent a hundred dollars on boots in the same time and would still have wet feet.”

Excerpt from Men at Arms, Terry Pratchett

Barriers and breakthroughs

It is vital that any cost analysis process understands the need for improvement, the appetite for change, and the barriers that can occur along the way...

Compartmentalisation barriers to change

The difficulty many companies have in making the correct decision on pallet wrap purchasing is that internal silos will often prevent a 'big picture' from being seen.

Operations, procurement, health and safety and various other groups all have a vested interest in making the 'right' decision for their area of expertise. Yet these different 'right' decisions are often at odds with each other. Making a quick win in procurement can affect operations considerably. Operations targets may be detrimental to health and safety standards.

Yet the operational and financial consequences of damaged goods often flow right through a company. This compartmentalisation of roles and responsibilities means that, while each can be operating at peak efficiency, the overall organisation is making inefficient and costly decisions.

The need for reducing damage in transit is therefore not just a simple challenge for logistics. Rather it is a matter of ensuring all information is shared across each area of expertise.

Understanding the appetite for change

Within the modern business environment many employees are time scarce when it comes to planning change across the medium and long term. There is often a culture of 'working with what's in front of you', with little opportunity (or inclination) for change.

While many will have the resources to affect positive changes the clarity and confidence to do so is lacking due to the time needed to check all appropriate data. Sometimes this clarity cannot be gained without a comprehensive audit process.

In some situations this cost can be perceived as too high – be it in time, new materials or equipment needed, labour and training, changes to warehouse layout and other processes. In rare circumstances major improvements to older equipment might also be needed for trialling new pallet film products.

Efficiency barriers to change

Paralysis by analysis can occur when audits on every aspect of a business affect overall efficiency. Understanding the real value of products can therefore often be seen as a 'luxury'.

The known return from the 'tried and true' is preferable to gambling with a potentially costly testing process.

Cost barriers to change

The cost of change is often a factor for businesses that want to make improvements in their end of line processes. Initially interested companies may view such situations as unnecessary or too expensive. Sometimes incoming staff won't have the historical knowledge or experience to make a well-rounded decision when it comes to new suppliers and processes.

Raising awareness of real value

Providing important information quickly and clearly is vital to ensure companies and consumers make correct purchasing decisions. Pallet packaging costs can be illustrated with in-house presentations, product testing and equipment demonstrations.

Then, with remote film monitoring units, this information can be consistently provided on an ongoing basis. However not all companies in New Zealand have the motivation for installing such monitoring units – and many do not factor in all the costs associated with inadequate pallet wrap.

Breaking through the barriers

Only with a focused perspective and a far-reaching analytical approach can the actual cost of pallet wrap be gained. This process needs to be detailed and comprehensive to provide real worth to the company undertaking it. Many companies find there are only minor costs to change pallet wrap from a traditional blown film to a new cast film. Depending on the machine set up, a few minor changes can be made to the rollers, machine settings and carriages and gears. Sometimes, a basic machine service and some more technical upgrades performed by qualified service technicians are needed. However this is a comparatively small cost, and the upgrade can be actioned quickly.

“ To make informed decisions and changes based on the evidence, businesses require high quality and accessible information, data and decision support tools. A worst case scenario is, for example, consumer push back about plastic packaging triggering a product redesign to a non plastic alternative that is actually less recyclable in our local context or has more detrimental environmental impacts.”

Rethinking Plastics in Aotearoa New Zealand, 2019.

The hidden costs of pallet wrap

Many companies can quickly assess what is being spent on film per pallet. However, there may not be the same awareness for the total cost of the end to end process, which needs to include the following four factors:



“ Kraft Food NA, one of the largest food companies found in a recent study that unsalable losses in the food and grocery distribution industry account for one percent of total annual sales (\$2.57 billion). The study further states that 60 percent of the unsalable losses could be attributed to delivery exceptions caused by load damage. Among the leading causes of load damage are poor packaging, poor pallet configuration, poor handling and loading practices and store-leveling stocking.”

Reducing Load Damages in Supply Chain Strategy, Ike C. Ehie, Debra L. Gilliland

1.

Cost of damaged or returned goods

This is the largest and most obvious cost associated with inferior packaging products and processes.

Many companies see such costs as a ‘necessary evil’. Even consistent damage is viewed as unavoidable due to the various stresses palletized goods experience from distribution hub to delivery destination.

Damaged pallet loads are, where possible, sent back for repacking. However often the contents are considered too broken for conventional sale. These will be moved on through discount channels or charitable donations. Sometimes however the damage is costprohibitive to remedy and so products end up in landfill. Adding financial insult to product injury, these additional landfill costs damage the bottom line too.

The visible and often unseen costs of transportation product damage.

- Product replacement
- Freight claims
- Customer satisfaction



- Return shipment costs
- Repair time and repackaging
- Administration time and costs
- Environmental impact
- Lost sales and impact on future orders
- Damage to brand reputation
- Subsequent damaged product discounts
- Customer service time
- Time-sensitive losses

2.

Cost of brand reputation

With damaged goods there's a fine line between an honest mistake (or accident) and ongoing issue. A little patience from those receiving damaged products only goes so far.

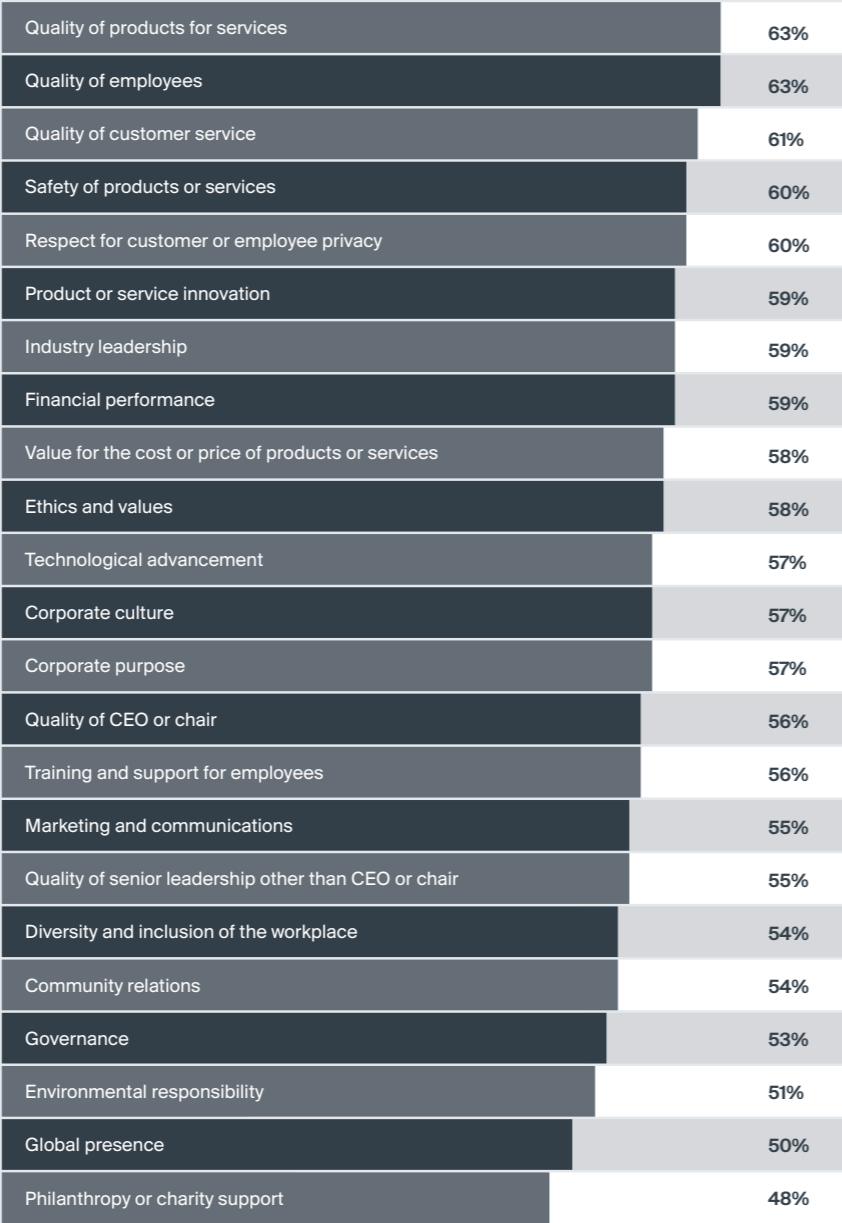
It's not only the inconvenience of those receiving the pallet either. Consideration must also be given to their customers, and the affects this has on their brand loyalty. A lack of goods or damaged products on shelves affects

repeat patronage. Any company that doesn't adequately and consistently provide quality goods will not endure in the long term.

In this way, both for manufacturers and retailers, resources provided for sales and marketing can be quickly diverted from attracting and engaging new customers to simply putting out fires and managing angry customers.

Factors that contribute to company reputation

(% global executives rate 8-10 on 10 point scale)



Source: The State of Corporate Reputation in 2020: Everything Matters Now, Weber Shandwick

3.

Cost of packaging time

With sustainability issues increasingly in the news the public's appetite for decreasing waste has never been more focused.

Companies that are seen to be engaging in wasteful practises can attract considerable online attention. It is here that shocking headlines of waste and negligence have resulted in social media storms and political pressure for change.

As a result many organisations are rigorously assessing their supply chains and asking their suppliers to do everything in their power to decrease plastic use.

With the right pallet wrap product, companies can reduce their environmental impact and contribute to sustainability goals while strengthening load containment and saving costs.

4.

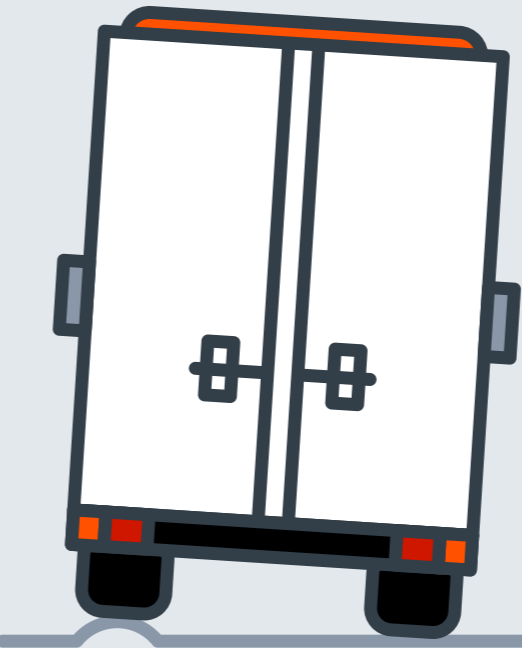
Cost of packaging and transportation

Breaking down returned pallets and repackaging them takes time and, as the popular refrain states, time is money.

Costs quickly mount within the chain of events that are put into motion after a pallet of products is earmarked as damaged. The cost of the initial pallet wrap is lost, the shipping costs are tripled and the subsequent pallet wrap cost is increased.

There is an added potential cost for companies faced with returned pallets – overcompensation on the next pallet load sent out.

Then there's the time spent assessing whether the goods can be saved, rewinding pallets, internal and external frustrations with damaged goods, and the actual cost of the damaged goods.



“ A food and beverage manufacturer is shipping into a large retailer. The driver has 24 pallets to deliver. In the process of unloading the freight, the dock workers notice that one pallet shifted during transportation and appears nearly ready to fall over. Based on its condition, they refuse to accept delivery of the single pallet.

After the remaining pallets have been unloaded, the retailer dock workers inform the driver they won't accept the final pallet and he needs to leave the yard. The driver, who was initially only paid to deliver a product from point A to point B, is now stuck with the pallet until he is given disposition by the shipper.

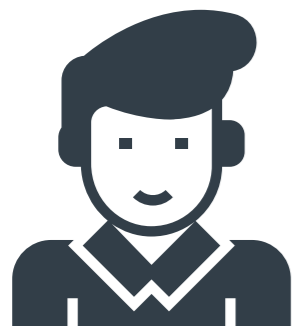
For the sake of this example, let's assume that the driver waits three hours—pretty typical—and is then told to donate the pallet to a food bank. The driver will bill for three hours of detention and miss his next load.”

What Makes an Effective OS&D Strategy? C.H Robinson

Actual cost of pallets wrapped

Only with accurate comparative studies can the real value of pallet film be correctly ascertained.

Expert assessment can compare the amount of film per pallet needed for secure load containment. Here, while the initial price is often higher, the stretch capability of Nanowrap means the actual cost can be considerably lower. This is due to the innovative resins and nano-layer structure, which provides strong containment properties while using a fraction of the film compared to traditional pallet film.



Dave at SuperSnacks wraps and sends 60 pallets of chips and biscuits per day.

Dave uses a conventional blown machine film:

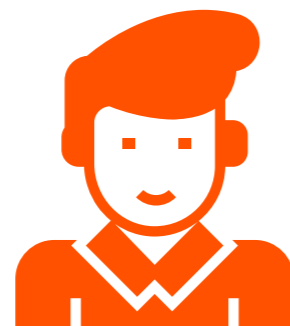
3 layers: 18 microns,
500mm wide x 1800m long.

He is paying \$55 per roll and applies 350 grams per load.

Over a year what it actually costs for SuperSnacks to package and send 18,720 pallets: **\$24,149.00**

\$1.29

Per pallet



John at Snack Kings is similar. He is wrapping and dispatching 80 pallets of snack food per day.

John uses a Nanowrap machine film:

33 layers: 15 microns,
500mm wide x 2175m long.

He is paying \$68 per roll and applies 200 grams per load.

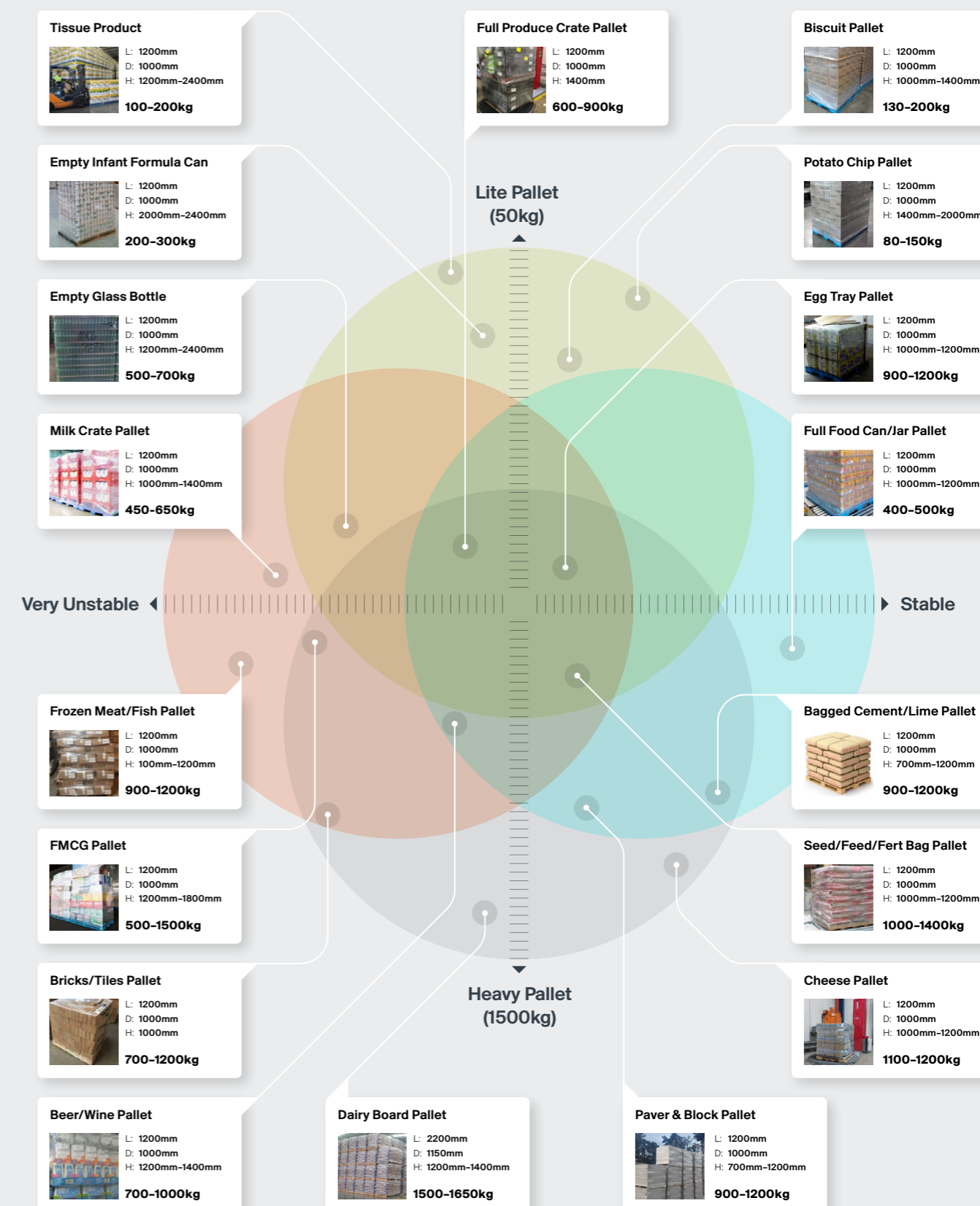
Over a year what it actually costs for UGoods to package and send 24,960 pallets: **\$24,714,00**

\$0.99

Per pallet

The different types of pallet wrap

There are many pallet packaging products available in New Zealand, and companies can be overwhelmed by choice. Besides the two types of production methods (traditional blown film and the more recent cast film nano layer extrusion) there are also a number of products made for specific purposes.



Testing methods

Quite often pricing decisions are made without the right information on a particular product. Without these measurements nobody can ascertain the real value.

If the company is following best practice processes it will work with a supplier to incorporate the cost of stretch film into the bill of materials. The testing process does take time however.

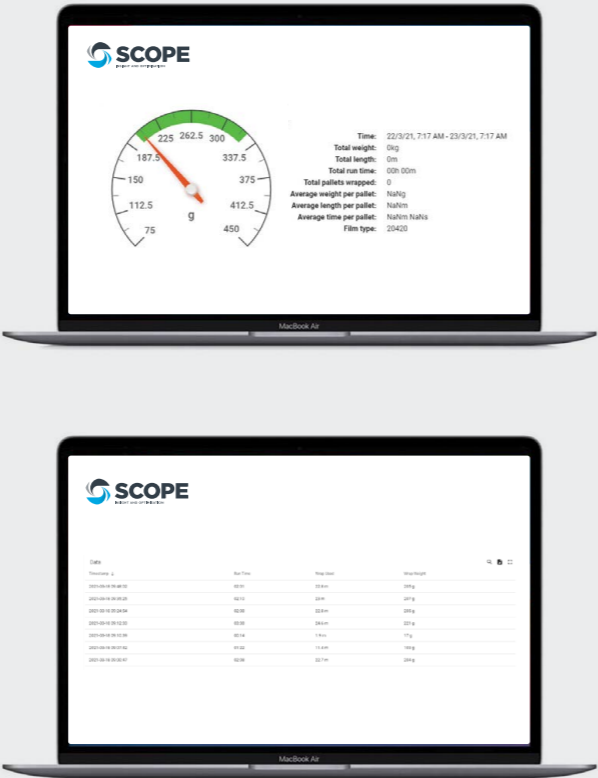
Here the age, condition and design of the equipment can place limitations on what film is best suited. Sometimes simple modifications and upgrades can bring older equipment up to speed.



Monitoring

The SCOPE system from Universal Packaging has been designed to effectively monitor all pallet packaging use and deliver clear ongoing reporting. This ensures the busy operation can easily test new wrapping products and make any move with confidence.

With real-time reporting every roll of pallet wrap can be used to maximum efficiency. This is also a helpful tool for alerting centres when too much wrap is being used as anything outside of the set parameters can be quickly uncovered and fixed.



Case study:
Yashili
New Zealand

The modern NZ business must grow returns without compromising ever-improving sustainability initiatives. For Yashili New Zealand this has meant looking at every process and product through the lifecycle of the company’s China-bound infant formula. Now they’ve made a change in pallet film that’s saved the equivalent of over a million plastic shopping bags in just six months.

Protecting the precious cargo of Yashili New Zealand requires diligent focus across every facet of storage, packaging and distribution. At the Pokeno plant the team are proud of their ‘best-in-class’ facilities. Temperature and humidity is controlled 24/7 and automated processes ensure nothing is left to chance.

At the busy site the standards must always reach the highest level – every can of formula must pass regulatory tests in both China and New Zealand. So too must every outgoing pallet be of the highest quality.

It’s why the Yashili distribution team continued to explore new opportunities to partner with forward-thinking suppliers. In 2019 they began talking to Universal Packaging and organised a demonstration of the latest pallet wrap.

The Universal team quickly got to work assessing the previous set-up before testing and refining the new film options.

There was no ‘one size fits all’ solution to the packaging needs of Yashili. Instead the team recommended the use of wide web film on the powder packaging line, the new



“It was a massive improvement that could be quickly actioned.”

Nanowrap20 film on the can line and the SmartwrapXT hand wrap for on-the-go applications.

“By using the Nanowrap20 we calculated they (Yashili) would be saving 40% on film weight for each pallet. Using the wide web film they’re saving 30% in wrap weight per pallet,” says Universal Packaging’s Sales Manager Matt Goddin. “It was a massive improvement that could be quickly actioned.”

In just the first six months of operation Yashili have saved the equivalent of over a million plastic shopping bags in wrap, a result both companies are extremely happy with.

“We’re delivering ‘pure’ savings,” says Goddin. “There are no compromises and the pallet packaging integrity has been increased with the new wrap. It’s a win for costs, product protection and sustainability improvements.”

At Pokeno this has allowed Yashili New Zealand to make the step up with confidence in their future-focused pallet packaging.

Case study: Sanitarium

We all grew up eating Weetbix and Honey Puffs, spreading Marmite and Peanut Butter on our toast after school. The company has grown up with us too, developing the product range and expanding the scale of the operation.

After closing the southern branch and moving everything to Auckland the busy FMCG brand was pushed for space and reaching capacity limits at their distribution centre there. This meant not just upgrading their wrapping equipment but also assessing if the pallet wrap in use was delivering the goods (in every sense of the phrase).

A careful scoping process was undertaken, a range of measurements collected over time to ensure any change would deliver quantifiable ongoing improvement.

When the data came back it was obvious a switch to Nanowrap provided the best result. While this wrap was more expensive per roll the actual film used would be reduced considerably, making the move a cost-effective one.

For over a century the Sanitarium brand has delivered on their core philosophy of ‘a better life through better nutrition’. It’s one of those brands that are seen as part of the fabric of New Zealand.

While the company had two wrapping machines these units were old and passed their ‘best before’ date. The decision was made to upgrade one machine to a high-specification fully automatic machine, the Spinny S500, with plans to update the other at a later date. There was only a small space available for this change so a custom-fit layout was required. With this new equipment a new full safety system was installed also.

Peter Levett is the Sanitarium Distribution Manager. Working closely with Universal Packaging in the auditing and scoping process he was confident of the change. Now, after a good amount of time has passed, he’s very happy the commitment was made.

Such results can be measured simply in the number of orders for new pallet wrap. “We used to buy a pallet of wrap every six weeks or so. Now we’re buying one every six months,” says Peter.

“We’ve also noticed a massive increase in productivity,” he says, a combination of the new pallet wrapper and a decrease in packaging pauses from wrap breakage.



Conclusion

New Zealand’s distribution companies can benefit considerably from further education on stretch wrap pricing and how wrap attributes affect pricing.

Purchasing decisions can then be made on actual value rather than simplistic comparisons on price or metres per roll. With this awareness financial savings can be gained in the medium and short term. Such savings are not just related to cost-per pallet – substantial positive gains can be made in reducing product damage and shipping time while meeting sustainability goals and enhancing productivity.

Methodical testing within the unique conditions of a distribution centre will generally need to be carried out to ensure clarity in data and confidence that any change is necessary. However this must be delivered in a timely, cost-effective manner to ensure all barriers to cost-analysis are removed.

A packaging expert will not provide recommendations without first understanding the machinery and application parameters in use. A good packaging analyst will be able to provide meticulous data to show where gains can be made.

As companies throughout New Zealand seek to improve their operational efficiency and sustainability footing, assessing such gains can no longer be seen as a ‘nice to have’ approach, or something to be considered ‘one day’.

Summary

- 1. Not all pallet wrap is equal. Consideration must look beyond stated cost to the actual value of the wrap.**
- 2. Correct assessment of the exact type of loads being packaged is vital to ensure the right type and amount of wrap is being used.**
- 3. Stretch wrap is a considerable factor in preventing product damage during transportation. There can be significant effects on transportation, environmental and reputation costs if this wrap is not applied correctly.**
- 4. While cheaper wrap products may provide short-term savings resultant overuse of plastic or subsequent product damage can have a major negative impact on operating budgets and the amount of unnecessary material entering the waste stream.**

To find out more about how pallet wrap and wrapping equipment can provide sustainable, safe and cost-effective packaging for your business, go to universalpackaging.co.nz or email info@universalpackaging.co.nz.

