# How accessible is food & drink packaging?

# Survey highlights from **Industry Perception** VS **Consumer Reality** Arthri

#### **Accessible Design Division**

Arthritis Australia's Accessible Design Division works toward educating and providing decision-making tools to industry and government at a design and procurement level, so that the needs and abilities of the broader community are understood. Accessible packaging is a focus area for the Division. The Division works with its research partner Georgia Tech Research Institute's *Principal Research Scientist*, Dr Brad Fain, who has conducted world-leading research in accessibility.

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### Introduction

Do consumers find all types of food and drink packaging hard-to-open? This is the question two surveys conducted about the consumers experience with packaging aimed to discover. Hard-to-open packaging has previously been associated with an increased risk of injury<sup>1</sup> and consumer frustration<sup>2</sup>. This study was conducted to explore which food and drink packaging consumers currently found hard or easy-to-open and if the packaging industry's perception matched this reality.

The first survey was completed by 411 consumers who shared their experiences with packaging, both through answering multiple-choice questions and sharing personal feedback (which was an optional part of the study). The survey also gauged the frequency that they had issues with packaging, as well as factors such as age and pain levels in their hands, to assess if these factors contributed to a increased level of difficulty.

The second survey invited packaging industry members to share their perspectives on what a consumers experience might be with different packaging formats. 87 people in the packaging industry participated. The majority of participants work as Packaging Technologists, but responses were also received in areas of brand management, media, marketing/sales, packaging design, packaging development, procurement, production/ operations, research and sustainability.

This summary compares the result of the two participant groups to assess if the industry perception of packaging accessibility matches the consumer reality. Both surveys asked participants about their experiences with 30 different packaging formats and opening features. These options were grouped into categories based on the action consumers would most likely perform when opening or using the packaging e.g. *turn-to-open* packaging grouped glass jars with metal lids with plastic bottles with plastic caps. Participants were provided with a description, image and example of a product in the packaging being considered and they had the option to choose between eight experiences the consumer would have when opening that packaging. At the end of each category of packaging, participants were also asked for their opinion on what factors they believed contributed to consumers having these negative experiences. This was an optional section of the survey, which will guide future research into the issues that contribute to packaging being accessible.

It is hoped the results of this study will educate and inform the packaging industry about areas of concern from consumers, as well as opportunities for future innovation.

<sup>1</sup> DTI (1997a) Consumer Safety Research. Domestic Accidents Related to Packaging, Vol. I. DTI, London.



## Who finds packaging hard-to-open?

The consumer survey asked participants about their age, gender and pain level in their hands, as well as their frequency of difficulty with packaging. While industry was asked questions about how often they believe age, gender and pain could impact a consumers experience with packaging. The following results are a comparison of the two group's insights, with the consumer data around the frequency that they struggled with packaging, being analysed as a whole, as well as being viewed through the lenses of gender, age and hand pain level.

#### How often do consumers have difficulty opening packaging?

Industry thought consumers were having issues with packaging once or twice a week, while the top answer from consumers was everyday.











**Occasionally** A number of **Everyday** Never Once or twice a week times a week Industry 0% 31% 11% 34% 23% perception Consumer <1% 9% 17% 31% 44% reality

#### Which gender finds it harder to open packaging?

#### Industry perception

#### Consumer reality

Industry thought women and men would be *impacted* equally, closely followed by *women* would be impacted the most.

The reality was both genders find it hard, but women more regularly have difficulty, with the top female result being everyday compared to the top male result a number of times a week.





#### Which age group finds it harder to open packaging?

Industry thought younger children and the ageing population would be impacted the most. Looking at the consumer reality across all ages, the top responses were either everyday or a number of times a week, revealing that all ages are currently struggling.



#### Does hand pain impact a consumers struggle with packaging?

Industry selected that 25% of each group would struggle, irrelevant of their hand pain. While the consumer data reflected that the more pain they experienced in their hands, the more often they would struggle with packaging.



#### Do consumers have difficulty reading packaging labels?

(including best before dates, ingredients and allergen messages)



## What experience are consumers having with food and drink packaging?

For each packaging format or feature identified in the survey, both consumers and industry were asked to select from the following options to capture their recent experiences.



Opened it easily



Could only open it partially before needing help/tool



Opened it after a struggle



Couldn't open it at all



Asked someone else to open it



Hurt themselves opening it



Needed to use a tool to open it



May not have opened this type of packaging before

Key: Industry responses in blue Consumer responses in purple Top response for each format or feature in orange

## Turn-to-open packaging

Turn-to-open packaging presented many barriers for consumers. This was reflected in glass jars with metal lids receiving the top number of responses from across the survey for couldn't open it at all or hurt myself opening it. Industry perceived turn-to-open packaging to be easier then what consumers really experienced.



#### Glass jars with metal lids

Consumers found that they primarily needed tools to open glass jars with metal lids, while only 28% of industry came to the same conclusion.



#### Consumer feedback:

Glass jars - Have to stab lid. Tend to use a knife or my teeth if I can. Makes me concerned if I am by myself how I will cope.

50 – 64 Female

Hurt my wrist when trying to open it.

50 - 64 Female

Went without because I simply could not open it. I don't buy them any more unless I take them to get someone to open it for me. I live on my own.

30-49 Female

Jar of jam - Couldn't open it. Had to wait until I saw my brother to open it in another country town. My problem is I can't eat things if I cant open them. Live on my own...

50 - 64 Female

To open a glass jar I have to boil a kettle. Then I hold the jar upside down over the sink while pour boiling water over and around the lid. This presents a risk of scalding.

65 – 79 Female

I have had to completely abandon a meal I was cooking as I couldn't open a jar that I required. It was super frustrating and can make me feel useless.

30 - 49 Female

Received the overall top consumer result for:



#### Plastic jars with plastic lids

Industry thought 55% of consumers would be able to open this type of packaging easily, while 36% of consumers managed to open it after a struggle.





#### Consumer feedback:

Plastic lids. I am unable to open these without the help of a knife which because of my hand grip is quite dangerous - I have cut myself doing this.

65 - 79 Female

#### Plastic cap on a pouch Interestingly this type of packaging was the least familiar to the consumers surveyed. Industry thought consumers would be able to open it easily but the reality for those who were familiar with it, was that they still struggled. 56% 0% 1% 2% 36% 2% 1% 1% 24% 11% 4% 3% 5% 3% 12% 37% **Received the** overall top consumer result for:

#### Glass bottles with metal lids

Both industry and consumers perceived that this type of packaging would be a struggle to open. Consumer feedback suggested an issue with breaking serrations might contribute to the number of consumer responses around using a tool to open this type of packaging.



#### Consumer feedback:

A bottle that had a metal lid with a serrated part I had to break as I undid it. I couldn't undo it and had to punch a hole in it with a screwdriver and small hammer. It was then sharp and uneven and after using what I needed I threw the rest out.

50 - 64 Female



#### Consumer feedback:

Milk bottle - The screw top is hard to turn and the seal top on top of bottle too hard to open.

65 - 79 Female

Plastic cap on milk bottle - Plastic cap would not break open so used a knife & put a hole in the milk bottle. I have no strength in my hands/fingers due to arthritis.

#### Plastic bottles with plastic caps

Both the industry and consumers believe that plastic bottles could be opened after a struggle. It also received the highest number of responses from consumers for asked someone else to



open it, with many consumers sharing feedback concerning feeling embarrassed about asking for help when struggling with water and soft drink bottles.



Consumer feedback:

Most water bottles - I ask strangers to open for me as I am usually out somewhere.

50 - 64 Female

I cannot open any soft drink bottle lids!...feel like a child and have to ask some times strangers to open my drink for myself.

30 - 49 Female

The easy crush water bottles tend to crush in when opening so I generally crush the bottle instead of turning the cap to open and often end up wearing the water. 50 - 64 Female

Plastic water bottle - After trying for a long time, with many tears and a lot of pain, I had to return to the store to embarrassingly ask someone to open the bottle for me. It's degrading at my age. I've been unable to open this brand since they changed their lids so I don't buy water unless I have my husband with me.

30 - 49 Female

I find the seals on bottled water particularly difficult. Some of the caps are not wide enough to be able to grip, the plastic used in the bottle is too thin and you have to squeeze the bottle to get a better grip on the lid.

50 - 64 Female

Water bottles are incredibly hard to open. I have to use my teeth

30 - 49 Female

Received the overall top consumer result for:



## Tear-to-open packaging

Tear-to-open packaging required a higher use of a tool by consumers then industry expected. This is of particular concern for products consumers might use when tools are not readily available, such as snack food eaten outside of the home environment.





#### Consumer feedback:

Tear to open containers with tiny snip indents saying "tear here" often on so-called resealable containers like some confections. Packaging material too strong and resists "tearing". If available, I use scissors and cut open.

65 – 79 Male

Film covered ice block - Trying to find the tear point, end up ripping the film into several parts to get it off and splitting the ice block into three pieces, does not make the ice block enjoyable to eat.

50 - 64 Male

#### consumers would only struggle to open packaging. 16% 6% 0% 0% 0% 37% 40% 1% 1% 26% 1% 2% 1% 0% 18% 50% a cool dry place av Tear strip and tear panels Both consumers and industry thought this type of packaging would be easy-to-open. While it also received the highest number of responses from consumers for only open it partially before needing help/tool. 54% 9% 2% 0% 1% 30% 0% 3% 34% 1% 15% 1% 0% 0% 7% **42%** Consumer feedback: Small things annoy the hell out of me. They are hard to grip and it's rarely obvious where I should tear / lift etc.

50 - 64 Male

Serrated edge plastic film bags and sachets

Half of consumers surveyed found that they needed to use a tool to open packaging that had serrations provided. This experience was significantly different to the industry expectation that consumers would only struggle to open packaging.

 Small things annoy the hell out of me.

 where I should tear / lift etc.

 Received the

overall top consumer result for:





## Tear-apart-to-open packaging

Tear-apart-to-open packaging, commonly associated with tamper evidence, required consumers to frequently use a tool for its removal, which was a result observed across all survey options. The industry perception of the need for a tool is partially reflected in it being either their second or third top response.





#### Consumer feedback:

The plastic shrink wrap over the top of jar and bottle lids is the worst and I've had to resort to using a knife to remove it then cut myself in the process.

30 - 49 Female

Just a time-consuming struggle. I'm increasingly conscious of the over-use of plastic, and avoid as much of this kind of packaging as I can.

80+ Female

#### 24% 1% 23% 3% 0% 0% 46% 2% 17% 15% 9% 3% 2% 1% 0% 54% **Received the** overall top consumer result for: **Removable tab** Industry thought consumers would struggle with 112 NOT 5016 this type of packaging, with 30% of consumers agreeing with this result, while 31% thought they needed to use a tool. It also was the second highest packaging format identified by consumers as hurting themselves on. 6% 0% 6% 2% 5% 20% 11% 51% 6% 7% 30% 16% 3% 7% 0% 31% Consumer feedback:

My most difficult item to open at the moment is ice-cream containers. They have little plastic tugs on two of the corners and I am not able to move them at all.

65 - 79 Female

#### Stickers over lid and container

To break the stickers, over half of consumers felt they needed a tool, making it the equal highest packaging format that required a *tool for opening*. Industry thought consumers could open it easily.

## Peel-to-open packaging

Peel-to-open packaging covered a variety of seal types and grip tabs. Industry acknowledge that induction seals would not be easy for consumers to remove. While consumer feedback revealed that consumers have experienced spillages, wastage and injuries when trying to peel open some seals.

17%

49%





#### Tabs on portion controlled condiment tubs Both consumers and industry thought this type of packaging would be a struggle to open. 41% 5% 3% 2% 0% 1% 44% 3% 9% 4% 1%

3%

1%

17%



#### Consumer feedback:

Seal on tomato paste tubs - I can never open these tubs, so I use a knife to cut the lid open & put the remainder in a freezer bag.

50 - 64 Female

Yoghurt - The package tears before you can crack the seal or you just can't open. 30 - 49 Female



#### Consumer feedback:

Sealed plastic packages e.g. ham - Every time I purchase these I end up having to cut packaging open to use. This means it wont reseal and often product is wasted even if I can find a container to put it in.

50 - 64 Female

Peel back seal on cold meats - Sometimes the seal tab is stuck down a bit, so it is hard to access the tab. I lack the dexterity. If I can get the tab up, I use scissors. Even when I can access the tab, the tab is very small and the seal is strong. I am unable to grip the tab strongly enough to open it. It hurts my hands and causes a lot of frustration.

#### Induction seals: three tabs

Both industry and over half of consumers identified that a tool would be required with this type of packaging. Consumer feedback reflected concerns around the lack of a sufficient area to grip as a major factor.





#### Consumer feedback:

Foil topped plastic containers (tomato paste) - I can never tear this type of lid off I always have to resort to scissors and puncture the foil.

50 - 64 Female

Seals on juice, mayonnaise etc. - I have to use my teeth, a knife or get someone else to do it.

50 - 64 Female

Seal on juice bottle impossible to grip, need a tool and inevitably spill it leaving a sticky mess. 65 - 79 Female



#### Induction seals: half-moon tab

Both industry and consumers found that the half-moon style induction seal was a struggle to open. It also received the second highest packaging format result for consumers not being able to open it at all. Consumer feedback reflected that spillage of contents was common when consumers struggled with this type of packaging.







#### Consumer feedback:

Seals on milk bottles - Putting the seal inside the milk bottle lid makes it much harder to open. It's hard to get the top off, by the time that's done my hands are too sore to remove the inner seal so I have to ask for help.

30 - 49 Female

Seals on plastic milk bottles - Too hard...I usually end up using my teeth to pull them off because I don't have enough strength in my hands.

65 - 79 Female

Seals on milk - We now have to buy 1L bottles of milk for our family of four because we can't afford for me to keep dropping or spilling the larger bottles when trying to remove those wretched seals.

30 - 49 Female

Milk bottles are a nightmare! I cannot use those half moon tab things. I cut the suckers open.

30 - 49 Female

Seals on milk bottles - Needed a pointed knife to lift & stabbed myself in process. Live by myself so no one to ask. Unless I go to a neighbour which is embarrassing.

30 - 49 Female

Plastic milk container - Tried to remove seal on a plastic milk container and lost grip of the tab, the milk container fell to the floor and shattered. Milk all over the kitchen. Took ages to clean. Felt like calling the milk company. So angry!!!

50 - 64 Male

## Pull-to-open packaging

Pull-to-open packaging required consumers to ask someone else for assistance or use of a tool to open it. Consumer feedback also expressed a variety of situations from creative opening techniques through to being unable to finish making a meal without assistance. Industry perception was significantly more positive in its predictions.



#### **Ring pull cans** Industry thought consumers would struggle with this type of packaging. While the consumers top result and feedback reflected a creative use of tools to open packaging as well as other negative experiences. 30% 39% 8% 1% 11% 0% 2% 8% 24% 12% 40% 4% 3% 3% 0% 14%

#### Consumer feedback:

Tinned fish in oil, always a disaster, trying not to spill the contents everywhere! Spills! 65 - 79 Female

Tab pull on flavoured tuna tins. I've cut my hands on many occasions. I now don't try and my husband opens them for me.

50 - 64 Female

I use scissors a lot. Use a wooden spoon handle on my soup tins.

65 - 79 Female

Can with a ring pull. The ring pull came off the lid so I had to use the tin opener to open the tin. Most infuriating.

65 - 79 Female

Canned tuna - Whenever I want to make myself a tuna salad for lunch/dinner and I'm home alone I panic because I know, no matter how hard I try, I physically cannot open a can of tuna. This is so frustrating and makes me feel incapable of doing normal/ independent things.

18 - 29 Female

Ring pull can - Couldn't open the tin of tomatoes to finish making dinner. I had to wait until someone got home hours later to open it for me. It certainly made me cross. 30 - 49 Female



#### Consumer feedback:

The soy sauce bottles with pull plastic tops inside. It is hard to grip the plastic ring pull and they cut fingers and usually break.



## Push-to-open packaging

Push-to-open packaging was generally seen as being a struggle or easily opened by consumers. Industry also commonly perceived these types of experiences for consumers, particularly for hinge caps.



#### Pop top lids Consumers primarily struggled with this type of packaging, while 68% of industry thought it would be easy-to-open. 1% 0% 0% 6% **68%** 23% 1% 1% 35% 13% 5% 3% 5% 34% 2% 3%

#### Hinge cap

Over half of consumers and 82% of industry thought this type of packaging would be easily opened. It also was the second highest packaging format identified by consumers as being easily opened.



#### Consumer feedback:

Flip top on a shampoo bottle - My hands were wet & I actually cut my finger on a sharp edge.



Consumer feedback:

Cream cardboard carton - Destroyed the packaging to get into it.

30 - 49 Female

Have various openers designed to help but many items are still a struggle. Often the packaging is just poor - cardboard milk, Big M type openings. Do my best but I live alone. Simply can't open some containers or need to wear a splint after straining my wrist.



## Pinch-and-peel packaging

Pinch-and-peel packaging was considered by consumers as commonly requiring a tool to open it, while industry thought it would be significantly easier to open. Consumer feedback also suggested that these negative experiences had an emotional toll on consumers.





#### Consumer feedback:

Pull apart bag on cereal packaging - I spilt cereal all over the bench top and floor which was a waste. It also makes me feel worthless and makes more work for me which at times can be extremely difficult.

50 - 64 Female

Heat-sealed bags - I get frustrated when trying to open these. I use my teeth to open a lot of things so I don't ask for help.

#### Film wrappers Almost half of consumers thought they would need a tool to open this type of packaging. While 45% of industry thought it would be easy for consumers to open. 0% 45% 26% 2% 20% 7% 0% 0% 29% 49% 1% 0% 1% 17% 2% 1%

#### Consumer feedback:

Sealed up packets of biscuits e.g. Premium biscuits - Extremely difficult to open for people with arthritis and you need to cut the packet open.

## **Resealable** packaging

Resealable packaging was generally identified by consumers and industry as being easy-to-use. But consumer feedback indicated that the resealable functionality was lost if tools were needed.



After I wreck the seals of packaging using scissors, etc, I have to use pegs to close it. 65 - 79 Female

#### Slider on pouches This type of packaging received the top consumer result for being easy-to-open and reseal. Industry also thought it would be easy to use. 1% 17% 0% 2% 0% 0% 1% 78% 21% 4% 4% 2% 1% 1% 4% 63% **Received the** overall top consumer result for:

#### Zipper seals on pouches

Industry was split as to whether consumers would find this type of packaging easy or a struggle to use. Consumers mainly found it a struggle and feedback suggested that using a tool diminished the resealable functionality.





#### Consumer feedback:

Impossible to open and reseal without scissors. Scissors used to open most packaging, even if it's enraged stabbing!

50 - 64 Female

Resealable bag with frozen berries - Each morning I make smoothies from frozen berries packaged in a resealable bag. There are days that I simply cannot open the bag. It's too painful and I do not have the strength in my hands. I have resorted to cutting the bag open, asking for help or simply going without because no one is here to help.

50 - 64 Female

Received the overall top consumer result for:



## Factors that caused consumers to have difficulty opening packaging

There can be a number of factors that can contribute to a consumer having a poor experience when opening packaging. At the end of each category group in the survey, there was an opportunity for consumers and industry to offer their opinion on the factors that could have contributed to them having this difficulty. Below are the options both participant groups could choose between.



Difficult to grip, hold and control



Caused the consumer pain



The force needed to open the packaging exceeded the consumer's abilities



No obvious opening point / no opening instructions consumers didn't know how to open the packaging



Fingers struggled with coordinating fine movements (i.e. dexterity)



Packaging could have been faulty - material selection or manufacturing settings were incorrect



Sharp edges



Don't know why

The top three answers from consumers generally comprised of the ease to which they could grip, hold and control the packaging during opening, the amount of force required exceeding that of the consumers ability and lastly the level of dexterity the consumer needed. The industry's responses were more varied although the same three factors also repeated throughout.

It is important to note that this was an optional question for participants, which allowed them to identify the factors that they felt contributed to them having difficulty opening or using the packaging identified in each category. It should be remembered that there are often multiple factors, which will impact to different degrees during the opening or usage processes. Just simply making one factor easier, may not simply solve a poor opening experience, but could improve it significantly. For example, providing a leverage point and grip on a bottle might allow a consumer to exert more force when opening it, but if the force needed to open the bottle still exceeds a consumer's ability, then they will still be unable to open the product. Therefore multiple factors and the overall experience need to be considered when improving a product's accessibility and is the reason why consumer testing is always recommended during a products development.

#### Top three factors that made packaging hard to open:







11%





Top consumer factors

















## The impact on consumers

Negative opening experiences with packaging can have an impact on consumers through an emotional toll, through their choice to repurchase the product and if it causes unexpected waste.

## When consumers had difficulty opening packaging, how do you think it made them feel?

Industry perceived that consumers would be primarily angry from negative experiences, while 44% of consumers felt upset and 41% felt angry.



\*Participants could select multiple options for how a consumer might feel

How many consumers have spilt or damaged a product when trying to open the packaging?



## After experiencing hard-to-open packaging, would consumers look elsewhere?

Both industry and consumers acknowledge that hard-to-open packaging experiences would cause consumers to look for a product but in a different type of packaging. 21% of consumers would also explore competitor products to avoid these negative experiences in future.



### Summary

In summary, although the two surveys only touched on 30 of the many different packaging formats and opening features available to the food and drink industry, the results reflected that many of the options were not as easily opened by consumers as the industry perceived. This provides the industry with the opportunity to innovate and differentiate a product through the accessibility of its packaging. By doing so, they can avoid unnecessary negative impacts on consumers on an emotional level as well as a physical one, with consumers no longer hurting themselves or creating unnecessary waste by damaging and spilling products caused through a struggle with packaging.

