

A Content Analysis of Consumer Misbehavior During the COVID-19 Pandemic

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Thomas Lynch

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# A Content Analysis of Consumer Misbehavior during the COVID-19 Pandemic

Thomas Lynch

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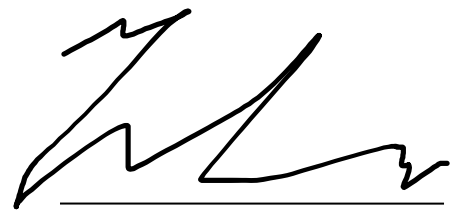
Business Economics

## **Abstract**

This study looks at panic buying through a content analysis of both US and Australian media. Panic buying is a consumer misbehavior that causes individuals to irrationally buy large or unusual amounts of certain goods to try and regain some control during a perceived disaster. The COVID-19 pandemic was resulted in large amounts of panic buying throughout different sectors and countries. This study aims to look at the differences between panic buying in Australia and the United States as well as finding themes throughout the literature that could affect the consumer. This study uses NVivo 12 to analyze different news sources from the two countries to find reoccurring themes that have direct effects on the consumer. While there are similarities between the two countries in there supply chain and supermarket issues, Australia's panic buying episodes were shorter and more intense than those in the United States.

KEYWORDS: (Panic Buying, Coronavirus, Australia, United States)

ON MY HONOR, I HAVE NEITHER GIVEN NOR RECEIVED  
UNAUTHORIZED AID ON THIS THESIS

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Signature

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## **Introduction**

Growing up in Rhode Island, we experience the four seasons better than most. Almost every winter, Rhode Island would be hit with a snowstorm or two, usually one being pretty significant. I have vivid memories driving with my parents to Dave's Marketplace in the snow only to see the milk and bread sections nearly drained by previous customers. My parents would always chuckle and move along, but it confused me why people would buy unnecessary amounts of food. My parents would half-jokingly offer up the explanation that all Rhode Islanders were crazy, and that it was just an overreaction to a storm. At first, I was confused by the concept, almost believing that these people were increasing their food while the snow piled on. However, I soon realized that this phenomenon known as panic buying is not exclusive to Rhode Island.

Panic buying is a consumer behavior that displays itself usually through unusually large or unusually varied purchases due to an anticipated price increase, a supply chain issue or preparation for a perceived disaster(Sim, 2020). Throughout different cultures and countries this behavior can manifest itself in many different aspects. In the case of a price shortage, buyers anticipate that a price increase will inflate the value of a certain good or stock and therefore attempt to profit off the price jump by buying large quantities. Supply chain issues can occur if the distribution chain is setup incorrectly or if natural disasters damage the infrastructure of the supply chain (warehouses, trucks) (Loxton, 2020). Furthermore, there are many disasters that can trigger panic buying behavior such as a natural disaster, war or discontinuation of a specific product.

Panic buying both has ramifications on the microeconomic and macroeconomic levels. On the microeconomic level, panic buying can incite anxiety in individuals causing the behavior to grow. Individuals can experience “fear of missing out” (FOMO) and rush to buy, causing a melt-up (Chen, 2020). On the macroeconomic level, unprecedented or unnecessary panic buying stresses supply chains and large scale distributors. This stress usually restricts supply, which causes the price of the goods to rise (Chua, 2020) . The combination of both of these effects can have a cascading effect that can spiral industries and even economies out of control. As seen throughout history, government intervention and price setting help mitigate some of these negative effects, but sometimes nothing can be done.

. Previous natural disasters and global conflicts have illustrated that panic buying is a coping mechanism for consumers regardless of the geography or the period in history. However, studying panic buying and understanding what makes it worse is critical for understanding how to mitigate its negative effects. Global populations are rising, and our planet only has a finite amount of resources, panic buying behavior stresses distributions and could unnecessarily accelerate the consumption of certain goods. Americans have experienced shortages and limits on goods such as gasoline, and more panic buying could introduce another shortage like seen in the past (Loxton, 2020).

The purpose of this thesis will be to compare the COVID-19 pandemic to previous panic buying situations in the past. In early 2020, the COVID-19 outbreak that began in China started appearing all over the globe. Growing concern from governments led to lockdowns and travel restrictions to try and mitigate the virus, which led panic buying around the world (Kabir, 2020). This thesis will begin by examining instances of

panic buying from the last century throughout different places and times in the world, and create a foundation of understanding for the 2020 COVID-19 case study. It is important to understand the different circumstances in each situation and if panic buying could have been avoided. Comparing the 2020 COVID-19 pandemic to previous panic buying situation will be useful for analysis, but the coronavirus poses its own unique challenges and benefits compared to previous situations.

After examination of the past, a case study on the COVID-19 pandemic and the subsequent panic buying behaviors will be analyzed using media sources from the United States and Australia. The research question is split into two parts; first part asks, “What panic buying related themes are seen during the Coronavirus pandemic and are they consistent with previous panic buy situations?” The second question will be looking at a content analysis of media articles to explore trends in reporting and the media’s effect on the consumer. The question asks, “How has the media affected the consumer misbehavior in the United States compared to Australia?” Looking at articles from the past 9 months covering the pandemic as well as consumer trends statistics should allow insights to be drawn surrounding the main effects of panic buying.

## Literature Review

### Terminology

Throughout human history, different examples of panic buying shed light on different causes and effects this behavior has on the economy and the consumer. Each situation comes with unique circumstances that affect the volume and duration of the panic run. Often times these scare buys cannot be avoided due to an external conflict is unavoidable. These economic issues affect different demographics in each scenario and those involved can range from the individual consumer to large corporations or countries. From the Spanish Flu to World War 2, it's critical to analyze each level of the economy to understand the complete picture behind the panic buy. In addition, other collateral issues often arise when dealing with a panic buy that can have detrimental effects on the economy. By examining each situation, one can find patterns and links to try and pinpoint the key to panic buying. Understanding the cycle of panic buying requires internal knowledge of ideas like herd behavior and Maslow's hierarchy of needs. These conclusions can then be applied to the COVID-19 pandemic to try and draw similarities or differences. As these situations seem to reoccur more frequently on a global level, analyzing the past could be the key to preventing panic buying in the future.

Panic buying is a type of consumer behavior that can fall into a larger category of psychology, Survival Psychology. Survival Psychology is the widely accepted idea that behaviors can change during or directly following a disaster or a perceived disaster (Chen, 2020). Panic buying is a perfect example of this. The immediate response for some consumers following a disaster is to overcompensate by purchasing a higher volume of goods, to try and maintain a false sense of control. Panic buying often times



leads to large volumes of medical supplies and essential goods to be bought by vendors, which can affect vulnerable demographics in our populations, such as the elderly and minority communities (Wang, 2020).

Previous research has established four major factors in panic buying: perception, fear of the unknown, coping behavior and social psychology (Yuen et al. 2020). Yuen's research also found that when faced with a pandemic, an individual who believes to be high risk will conduct self-protective activities, panic buying being one. This mindset can be worsened if the consumer perceives a product to be in short supply or now inaccessible, the individual will feel even less in control and buy even more to compensate. Their research also found that consumers can try anticipating a sense of regret by buying more than necessary to try and combat that future anxiety. Research conducted by Kang Sim (2020) highlights the main causes of panic buying as a shift in routine and societal pressures. When our regular routine is hindered by a pandemic or natural disaster, panic buying can be seen as the manifestation of our old routine trying to come back into our life. This routine clash, coupled with societal pressures, can see individuals who know that panic buying is not a rational solution taking part in the consumer misbehavior (Sim, 2020).

Herd mentality is defined as “an alignment of thoughts and/or behaviors of individuals in a group that emerges not from a purposeful coordination by a central authority or leading figure, and instead through local interactions among agents” (Kameda and Hastie 2015, p. 2). Herd behavior is a key part in panic buying as herd mentality manifests itself in stock prices, consumer purchase behaviors and collective societal anxiety. When dealing with panic buys, consumer purchase behavior and

collective societal anxiety are especially important. When dealing with a crisis, the consumer societal anxiety heightens the herd behavior, meaning that consumers rely more on the behaviors of their peers more than usual. The main issue with herd mentality in these situations is the misallocation of assets effects price which cause volatility in markets and essential goods to lose their supply. The consumer fear or anxiety is contagious in times of crisis due to the fact that individuals are trying to maintain control through consumption. In addition, “scarcity heuristics”, a mental shortcut that gauges value of an item based on how easily it can lost, can be skewed in times of crisis. Due to the shock of the crisis, this mental shortcut can fuel panic buying, as consumers irrationally believe that everyday household items are now much more expensive and valuable (Cheung 2015). Understanding herd behavior and how it can negatively affect consumer behavior is important so that policymakers can try and curb this misbehavior.

Maslow’s Hierarchy of Needs is a theory proposed by Abraham Maslow (1943) that attempts to rank and categorize human needs . The theory is commonly presented as a pyramid with the most basic needs on the bottom and “self-fulfillment needs” on the top. The pyramid is split into five sections (from bottom to top): Physiological needs, safety needs, belongingness and love needs, self-esteem needs and self-actualization needs. When looking at this theory in terms of purchases, it can be seen as “need” vs “want.” The two most important needs physiological and safety are needs in terms of purchases while everything above that on the pyramid is a want purchase (Wang, 2020). For example, food and water are always “needs,” regardless of the circumstances, they are critical for survival. Goods like alcohol or cigarettes are classified as “wants” usually. When examining panic buying during the COVID-19 pandemic, it is important to note

whether a consumer's hierarchy changes how spending is prioritized. Data from recessions including the Global Financial Crisis show that during times of crisis luxury goods or "want" purchases are significantly lower (Black and Cusbert 2012). Maslow's model provides a platform for analyzing consumer behavior during times of stress or disaster, like during the COVID-19 pandemic.

Another critical component of the panic buying cycle is the role of the media in influencing consumer behavior. Mass media has helped form and lead public opinion and with advancements in technology the mass media is bigger than ever. Especially during crisis or immediate following, the media can play a massive role in subduing or inciting fear among the general population. Research done by Danielle Kilgo (2017) showed that although onset panic from crisis is organic, the media has a disproportionately larger effect on the anxiety and fear of consumers due to news outlets trying to gain more attention by inciting fear into their readers. Kilgo's research focused on media coverage surrounding the Ebola outbreak in 2014. Kilgo found that news media outlets where individuals get their breaking news, like social media or online journalism, tried to incite fear through headlines surrounding the Ebola outbreak in West Africa (Kilgo et al. 2017). At the beginning of the outbreak, there was little to no change in consumer behavior as media coverage was neutral and mundane. However, as mass media shifted its tone to the Ebola virus, using words like "outbreak" and "pandemic" more frequently. This had a panic like effect in both America and the UK, and media coverage increased altogether once some hysteria had been conjured up by the media. After the first death in America, the CDC received a 135% increase in calls regarding concerns about products coming from Africa (CDC 2016). Panic buying and herd behavior ensued, with hazmat suits

selling on amazon for over \$1,300 USD and medical supplies were bought in higher volumes in the winter months of 2014 (Kaur,2020). With the COVID-19 pandemic claiming significantly more lives in America than Ebola, it is important to understand that the media has a massive effect on panic buying and her behavior.

### **Previous Pandemics and Natural Disasters**

The Spanish Flu showcases how critical the mass media can be in leading the public opinion and quelling consumer misbehavior. The Spanish Flu is one of the most deadly pandemics where mass media was present in the world. The pandemic in its entirety claimed over 50 million deaths worldwide and decimated a large percentage of the working population. The media coverage of the flu shifted from passive non-worrying to inciting fear in Europe's general population. At the start of the pandemic, the UK's Daily Mail described the Spanish Flu as a case of the chills and no worse than the flu in early June of 1918 (Roa 2018). By late October, coverage had increased with consistent death counts and reports of young female factory workers dying. Europeans felt this gloom from the media and fighting and panic broke out while government officials urged citizens to stay indoors. Fear from the Spanish Flu prompted individuals to take matters in their own hands, and pharmacies and drug stores were cleared out of supplies. Things like Aspirin and Quinine were bought in record numbers to try and combat the Spanish flu. Fear and panic got so bad that consumers started creating home remedies, like Beaver Oil or Polish Brandy (Freckleton, 2020). Advertisements in the newspaper often times lied about quantities of medical supplies to try and make consumers think they needed to

panic buy even more (Greve, 2017). It is clear to see that the mass media, , has a massive effect on our fear and ultimately our consumer behaviors.

The 2011 Christchurch Earthquake coupled with research by Sharon Forbes (2017) can help us differentiate between immediate consumer behavior changes and if long term lasting effects disasters or crisis can have on consumer behavior. The 2011 Christchurch Earthquake devastated the New Zealand town, killing 185 and leaving 80% of the city without electricity or water. Infrastructure was severely damaged and total rebuild costs are estimated to be around \$40 billion USD. Christchurch was devastated and also experienced an exodus of around 80,000 New Zealanders (Hori, 2014). Studying universal product codes (UPC) helps see the percent change in goods between weeks prior and the week of the earthquake. The unit percent change for water the compared to the previous week was a 328.7% increase, due to the fact that most of the water pipes in the city had been destroyed.

This also aligns itself with Maslow's hierarchy of needs, as water is the most basic physiological need and New Zealanders anticipated the damage to infrastructure. Canned meals, baby needs and batteries and flashlights were the other major increases in consumption, once again aligning with Maslow's theory. New Zealanders did see a shift in behavior in the following months. UPC research found that perishable goods decreased in the following months while wine and beer sales increased (Kaur, 2020). The decrease in perishable goods could be due to aftershocks that followed the earthquake, or rather the consumer behavior shifting to be less dependent on electricity. Many New Zealanders were out of electricity for weeks or months, and this lack of electricity has an effect on the consumer behavior. This semi-permeant change is important to note because this was

due to a week long disaster that had effects for months. When studying the COVID-19 pandemic, permeant changes to consumer behavior could be hypothesized because of the duration of the pandemic and the lack of control the United States has had on the virus (Forbes 2017).

### **Wartime Consumer Behavior**

One large cause of panic buying throughout history is war. Often times uncertainty in infrastructure due to invasion causes panic in the citizens to stock on essentials goods in the chance that their country is overrun. The idea that warfare could impede on the general population's access to food caused a massive panic for things like canned food and toilet paper. This can be seen throughout conflicts in the 20<sup>th</sup> century. During World War 1, many Americans and Europeans were left rationing basic goods and essentials. Goods like flour, sugar, butter and milk were all rationed in the UK and could only be bought in limited quantities depending on the individuals ration book (Cadman-Rivers, 2015). However, the prime example at consumer misbehavior during wartime is World War 2. With World War 1 fresh in the mind of most humans, war was to be avoided at all costs. This led to a substantial build up on war anxiety and Americans and Europeans alike nervously waiting for war. This herd behavior is a key part of panic buying as herd behavior perpetuates the fear of the consumer and causes the panic buy to increase in individuals effected. When the Americans did enter the War after Pearl Harbor, consumers went into a frenzy for goods such as textiles and food supplies. Compared to the 2020 case of COVID-19, this situation is clearly different because war means allocation of resources to the war effort, which created a greater strain on civilians and manufacturers. With most men fighting overseas, women hoarded goods with the

fear that rations would take effect, and they did. With panic buying in full force, President Franklin D. Roosevelt had to respond and fast (Schumm, 2014).

The US government established the Office of Price Administration (OPA) in 1945 to help combat some of these consumer misbehaviors. Because of the panic buying occurring in the US, rationing needed to be set up for goods ranging from shoes to milk. In addition, the OPA set up price ceilings for manufacturers of goods to civilians (Schumm, 2014). As is common with most panic buys, prices rose for consumer goods as manufacturers could not keep up with consumer demand and the war effort simultaneously. These price ceilings, although effective, keep the prices down which allows consumers to buy in irrational volumes (Mower 2018). The government knew this, so campaigns on preventing scare buying were established throughout the US. The “Carry Your Share For Victory” campaign was effective in reducing the unnecessary consumption of gasoline and tires in America during the war. The campaign positioned the consumer in a battle with the Axis powers, arguing that panic buying fuels the opposition. This campaign and many other were effective in curbing the American consumers’ need to buy irrationally. Even just the threat of war can cause a panic buy, as seen during the Cold War and the Cuban Missile crisis (Huntley, 1962). The media swayed consumers into believing that civil defense was weak, and that Americans were susceptible to a missile attack. This led massive amounts of consumers to panic buy canned food, as many believed an attack on American soil could be imminent (George, 2003).

Although panic buying is an idea of its own, it becomes much more dangerous when the aforementioned ideas like herd mentality, Maslow’s hierarchy of needs and the

mass media manipulation are also present and thriving. Herd mentality is the gasoline for panic buying, as seen in earthquakes in New Zealand and Japan, consumers tend to follow on another in purchasing decisions (Forbes, 2017) (Hori, 2014). The individual wants independence but still be normal enough to have same spending habits as the majority of shoppers. However, when panic buys are introduced, people either believe they are missing out or they just want to fit in and therefore continue the trend of consumer misbehavior (Yuen, 2020). This large dynamic change of the consumer can be seen through Maslow's hierarchy of needs. In Christchurch, a lack of electricity forced batteries to the "need" category for flashlights (Forbes, 2017). This change is usually not permanent, but some products like perishables and produce have seen some decline following panic buys. Finally, the media sets the precedent on how consumers should react, media companies hold the power to either quell or incite hysteria from the public during panic buys (Greve, 2017). By understanding the past panic buys and what caused them, one can have a good grip on the factors causing the 2020 COVID-19 pandemic. By looking at consumer behavior in the past 8 months, we can see if consumers have adapted to the pandemic in terms of spending and consuming. Also, with a vaccine on the horizon, that could have an effect on consumer behavior. The world has not seen a pandemic on this level since the Spanish flu over 100 years ago, and hopefully another pandemic will not be here for the foreseeable future. However, learning from 2020 COVID-19 and trying to see if it is similar to previous disasters in the past maybe the key to stopping this consumer misbehavior in the future.



## **Methodology**

The study conducted will be an exploratory study of consumer misbehavior in both the United States and Australia during the 2020 COVID-19 pandemic. Exploratory studies allow the study to be open ended with no predefined structure (Formplus, 2019). The main exploration will be investigating news articles and different media outlets so that comparisons can be made to panic buys in the past. The study will mainly be qualitative, although there will be some quantitative aspects to it as well. The quantitative aspect mainly revolves around word frequencies and number of coding references. Approximately 20-30 articles will be found for each country and the frequencies for keywords will be calculated and themes will be generated depending on the material in the data. Australia and the United states will have their data examined separately and understand fundamental similarities and differences in media.

To better translate the qualitative analysis into some numerical figures, I will be using the NVivo to help me through this process. NVivo is a program that allows qualitative research to be better organized and analyzed by being able to search through various data that maybe difficult to analyze in the traditional methods, like interviews or newspaper articles (McNiff, 2016). It specializes in non-numerical or unstructured data which allows to be applied to multiple different forms of media. Tables will be generated in NVivo to showcases themes and data points, and NVivo also offers unique chart capabilities. Some of these diagrams include comparison diagrams, mind maps, concepts maps and hierarchy charts. Hierarchy charts, which will appear in a sunburst format in

this study, will allow the reader to better understand the magnitude of these themes seen in the media.

NVivo will be used to and identify keywords in news publications in both the United States and Australia. By highlighting key words such as “panic buying” “scare buying” or other synonyms and descriptive words, frequencies of these keywords will be able to be seen throughout US and Australian media documents. It can also be categorizing the panic buy factors into keywords as well which will then be composed into sunburst charts. With the NVivo software, themes overlapping and connecting can be seen easily through coding and comparison diagrams.

The study will have several limitations. Everyone should be aware of the scientific quality of data as media reports and other data sources for this study may not be considered scientific data. Limitations also arise when looking at the timetable of the 2020 COVID-19 pandemic. Data will be collected throughout all of 2020, but because the study is being done in February 2021, some news articles may be lost at this point in collection. Databases will obviously help with this process, but it will be difficult to capture specific points in time from the past year. In addition, most countries have approved either one or multiple vaccines, and vaccinations have already begun in the United States. Furthermore, Australia has done a much better job of keeping cases down and with a consistent early lockdown has returned to some normalcy as opposed to the United States. We also included only media reports published in English and excluded reports published in other languages.

## **Analysis & Results**

### **Background of the Case**

The context of this case will allow the results to be better interpreted and help justify certain limitations. With any qualitative analysis, understanding the current events during the time of the study will allow the results to be understood. At the time of the study, it is February 2021 and coronavirus is still rampant all over the globe. The SARS-CoV-2 virus, known commonly as coronavirus, was first seen in Wuhan, China in December 2019. By March 2020, the majority of countries around the world had seen coronavirus cases. At the end of 2020, only sixteen countries had zero coronavirus cases, most of them small island states with closed borders. In January 2021, new Strains identified in the United Kingdom, South Africa and Brazil have all complicated the efforts to combat COVID-19 (Bollinger, 2021). However, different countries have implemented different restrictions that have seen varying results. In addition, vaccine breakthroughs have allowed some countries to begin vaccinating certain populations. Both of these factors have a great effect on the media in United States and Australia.

The United States has had difficulty quelling coronavirus cases in the past year due to lack of federal mandates, and differing opinions and strategies throughout state governments. When the CDC confirmed the first coronavirus case in late January 2020, the federal government had mixed responses and initially downplayed the virus. Former US President Trump downplayed the virus in press conferences reassuring Americans that the economy would stay open. At the time, little research about coronavirus had been done and most of the science published in early 2020 has since been debunked. As cases

continued to rise, issues arose with testing especially in hotspot areas like nursing homes and long-term care facilities. By June 2020, the United States had confirmed over a million cases. At this point, clear science had been established on how to minimize the spread of the virus with scientists pointing to face masks, social distancing and contact tracing. However, no federal mandate was enacted to enforce mask wearing. The lack of federal intervention meant state governments had to burden the task of minimizing coronavirus cases. Some states stepped up early in their efforts like California that enacted a stay-at-home order on March 19, 2020 (AJMC, 2021). Although these stay-at-home orders were effective, the lack of unity among state mandates hindered the effectiveness of lowering numbers on a nationwide scale. States like Florida and Arizona have yet to impose mask mandates allowing cases to continue to rise (Markowitz, 2021). At the time of this study, there are over 27 million confirmed coronavirus cases with over 400,000 deaths (CDC, 2021). However, vaccine developments have shown some signs of hope but the United States still does not have a hold on COVID-19.

The different vaccines being distributed throughout the United States have alleviated some stress stemming from coronavirus but there are still significant roadblocks for the United States when it comes to testing and eradicating coronavirus. Throughout 2020, multiple different private pharmaceutical companies began working on a vaccine with funding from multiple governments. By November 2020, Moderna, BioNTech and Pfizer had all produced vaccines that showed promising results with minimal side effects. In December, the FDA panel recommended these companies' vaccines for use on the American people (AJMC, 2021). On December 14 2020, the first vaccine was given to a critical care nurse in New York City, marking the beginning of the

vaccine campaign in the United States (Loftus, 2020). Issues arose immediately with supply and transportation of the vaccine. The BioNTech and Pfizer vaccine both require sub-zero temperatures during storage which makes it difficult to transport large volumes and loss of refrigeration can ruin dozens of vaccines. In addition, all the vaccines require two doses to be effective. This has led to issues with supply as General Perna of Operation Warp Speed took sole responsibility for miscalculating vaccines quantities. Another major issue is demand as some Americans are denying the vaccine. For example, sixty percent of nursing home employees in Ohio refused to be vaccinated (Cohen, 2021). This demand issue also hinders supplies because vaccines must be administered once removed from cold temperatures and therefore vaccines go to waste when Americans refuse them. At the time of this study, over 39 million vaccines have been administered in the United States (CDC,2021). The vaccines are proving to be effective but due to lack of early intervention the United States will be dealing with coronavirus for the foreseeable future. With coronavirus still rampant over the United States, it is still a fixture in media outlets throughout the country.

Australia's coronavirus response has proven to be much more effective than the United States due to unity among state and federal governments as well as data driven mandates and regulations. When coronavirus first began spreading outside of China, Australian government officials knew action must be taken swiftly. Australia is similar to the United States in the aspect that it is nation made up of states with their own governing bodies. Unlike the United States, Australia's federal and state government came to together to develop and establish a practical response. This unity help establish the National Cabinet, a collection of federal and state government officials allowing for

direct communication and collaboration between different levels of government (Child, 2021). The National Cabinet created a three step framework for mitigating cases that allowed states to freely move throughout different steps, allowing offering data driven guidance on how to respond and move forward when COVID-19 cases rise or fall. The government also established a COVIDsafe app to help with contact tracing and provided ample economic relief for unemployment. Furthermore, a hotel quarantine system was created that tracks incoming international travelers and isolates in a hotel for 2 weeks, no exceptions. Most importantly, the government established a trust with the Australian people so that when restrictions or mandates were put in place the people diligently followed them (Patrick, 2020). The combination of these factors has allowed Australia to have some of the lowest cases of any large country in the world. At the time of this study, Australia has only around 29,000 cases and only 909 deaths. This success has allowed Australia to not rush into a vaccine campaign and has allowed most Australians to enjoy a pretty normal life. In terms of vaccine efforts, Australia plans to begin vaccinating its citizens in late February 2021 (Scott, 2021). This different context between Australia and the United States will explain some of the themes and trends seen in the analysis.

## **Analysis**

The protocols established for this case study were set up to help limit bias in data collection and help minimize limitations. Data collection evolved throughout the case study but certain protocols were held constant. First, only certain phrases were searched to try and not create bias. “Panic buy” and “panic buying” were the only terms used in preliminary searches because that specific consumer misbehavior is the crux of this

study. No other words were included to ensure that the search engines and databases so that the results were not diluted with other search terms. These two terms were first tried on basic search engines to generate current news surrounding panic buying. To get a realistic idea of current Australian news, a VPN was used to change the IP address to Sydney. Raw data was gathered on search engines from Google from both the United States and Australia. This raw data comes in different forms ranging from local newspapers publishing online, blogs, and magazines. No scholarly articles were used because they do not represent the general media and are tailored to a specific audience. Once the search engines had given a current view on panic buying in the United States and Australia, databases were used to help gather a complete image of the past year. Coronavirus has been prevalent for all of 2020 so gathering media from all of 2020 is crucial to producing meaningful results. Nexis Uni is a database that stores newspapers and other media forms from around the globe. Once again, the two terms were run through Nexis Uni, however a date range was set to only show media from December 31, 2020 to January 1, 2021. This will allow data to be collected from a couple months ago without having the current media being included. Nexis Uni organizes its data by relevance which includes the date, so creating a date range allows older media to be prioritized easier. This date range process is repeated for every three months going all the way back to January 2020, when coronavirus began to spread all over the globe. Having raw data from each quarter allows a more complete picture to be seen on how panic buying has manifested throughout the whole pandemic. This process was then completed with Colorado College's Library's One Search as well as Newspaper Source Plus and Academic Search Complete. It is important to note that as all as these databases had

filters on them restricting academic journals and only allowing newspaper and other mainstream media. These databases also allow filters that can specify publishing locations so that Australia and the United States can be isolated when retrieving data. Once all the raw data is collected, NCapture allows for easier capture and upload to NVivo, which helps visualize analysis.

NVivo’s abilities allow the raw data to be analyzed and helps visualize the results of the content analysis. Once all the data is uploaded to NVivo, going through each piece of media meticulously is critical. Nodes are created in NVivo to help keep track of words or phrase that follow similar themes. After reading the pieces, “panic buying” and “coronavirus” obviously appear instantly. However, after going through the media pieces multiple times, more subtle themes appear. NVivo also allows for text search queries for all the raw data uploaded so that word patterns that could have been missed by the reader are found with NVivo. After analysis, ten Nodes became clear throughout the data. The Nodes can be seen in Table 1.

Table 1

Descriptions and Identifiers for NVivo Nodes

Node Name	Description
Coronavirus	Mentioning of Coronavirus



Direct Discouragement to Panic Buy	Government officials or private business employees encouraging consumers to not panic buy and to shop rationally.
Food Shortages	Mentioning of Food Shortages, this Node is split up into child nodes that specify the food type if it was mentioned in the media piece.
Panic Buying	Mention of Panic Buying
Response to Lockdown	The theme of panic buying being directly related to an incoming lockdown or stay at home order that is enacted by the government.
Second Wave Fears	Panic Buying being amplified by fears of a second coronavirus wave.
Supermarket Issues	Supermarket Issues that may hinder business or impact the consumer.
Supply Chain Issues	Mention of panic buying directly affecting supply chains.
Toilet Paper	Toilet paper shortages and examples of irrational buying of toilet paper.
Water Shortages	Water bottle shortages in stores mainly.

## Results

On a larger level, it is clear that similar patterns emerge between the content analyzed in both the United States and Australia. A word frequency query ran through NVivo allows for the 20 most frequent terms to be displayed along with their weighted percentage. These can be seen in table 2.

Table 2

Frequencies and Weighted Percentages for the 20 Most Frequent Terms

<b>Word</b>	<b>Length</b>	<b>Count</b>	<b>Weighted Percentage</b>
panic	5	333	1.38%
buying	6	310	1.29%
paper	5	191	0.79%
people	6	179	0.74%
stores	6	169	0.70%
toilet	6	157	0.65%
Australia	9	129	0.53%
supermarkets	12	125	0.52%
food	4	116	0.48%
need	4	112	0.46%
grocery	7	104	0.43%
news	4	104	0.43%
coronavirus	11	99	0.41%
shelves	7	97	0.40%
2020	4	94	0.39%
covid	5	89	0.37%
supply	6	89	0.37%
shoppers	8	86	0.36%
like	4	85	0.35%
new	3	84	0.35%

It should be assumed that panic and buying would be the most frequent terms, as they were the origin of the search. All of the media forms were traced back to panic buying, as that is the main aspect of the study. “Paper” is the third highest found word which makes sense because not only do many new publications have the word “paper” in their title and therefore on their website, but is also part of many commodities that are in high demand due to panic buying. Toilet Paper, Paper Towels and even paper goods like plates and napkins have seen an increased demand due to the Coronavirus pandemic. “Toilet” is the sixth most frequent term and can be assumed that it is due to the toilet paper shortages throughout Australia and the United States over the past year. This table offers some basic understanding of what kind of media content is being producing in both Australia and the United States.

Chart 1

All Nodes Sized by Coding References



The sunburst hierarchy charts allow the larger themes to be seen throughout media pieces in both Australia and the United States. The first sunburst, Chart 1, shows all the trends including the origin search term panic buying. Because panic buying is the origin search term for the study, it is presumed that this would make up the majority of the sunburst chart. This assumption is confirmed with panic buying having the highest code references for all the data with 262 references. Coronavirus has been linked to panic buying for all of 2020, and clearly the data reflects with coronavirus/COVID being the third most common theme throughout the data. However, Toilet paper is clearly a theme throughout the data and is the second most common Node. Toilet paper shortages and issues with Toilet paper supply chains can be seen throughout the data over the course of the year in both Australia and the United States. It can be seen over 150 times throughout the data and is some key evidence of panic buying in both countries. Toilet paper is an interesting commodity not only because of its inelasticity but its packaging how that effects the consumer's behavior. Almost all individuals living in developed countries would consider toilet paper an essential good for maintaining a hygienic lifestyle, so demand stays constant. In addition, toilet paper is usually packaged in large quantities which takes up a large volume of shelf space. Suppliers have calculated the necessary volume to keep toilet paper on the shelves using normal consumer data from the past. However, with coronavirus providing uncertainty and fear in consumers, this can cause an initial panic buy. The large packaging means shelves emptier quicker, which then puts more irrational fear in consumers. This idea is supported by the continuing publishing of media reports that suggest toilet paper shortages have frequented the past year multiple times, not just at the start of the pandemic (See Ross July, 2020 and Dexter November,

2020). This also supports the irrational behavior of panic buying, as multiple suppliers have come out and reassured customers that supply will not be an issue. Furthermore, although demand and unnecessary volumes were purchased there is not data to support that actual consumption of toilet paper went up in the pandemic. Although it is clear that panic buying has been a continuous practice throughout the past year, understanding more intricate themes is also important. Because the terms “coronavirus” and “panic buying” are so common in the data due to of the topic of the case study, both of these Nodes are removed in Chart 2 to show the weights of the more specific Nodes.

Chart 2

Secondary Nodes sized by Items Coded

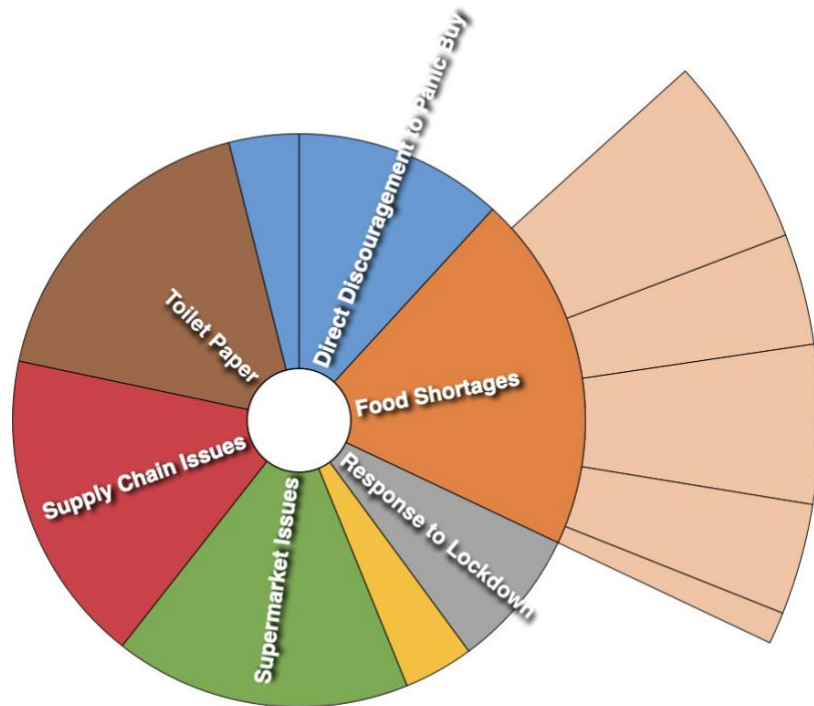


Chart 2 reveals what the main themes in the data as well as showing why this behavior continues to fester in certain parts of the world. Chart 2 differs from Chart 1 in that the size of the pieces reflect the number of items coded, meaning that Chart 2 reflects how many times that theme can be seen in an individual piece of data. The reason why “Food Shortages” have that fan outside the chart is because food shortages has been divided up by food category, each sliver represents a different food being in low supply. Toilet paper and Supply Chain Issues are the strongest themes in the data set, with supermarket issues only close behind with 2 less items coded. This supports the findings in Chart 1 with regard to Toilet paper and its role in panic buying as well as supply chains. Supermarket Issues and Supply Chain Issues can be seen throughout both countries, but most of the data comes from March-May of last year, when genuine concerns were raised for supply chain issues. Most of these issues have been resolved or were fabricated by the media to attract viewers. In addition, the majority of the supply chain issues came from the United States, which has had a less effective coronavirus response and therefore has not been able to get control of panic buying. However, Supermarket Issues have a much wider range coming up in media over the past year. With supermarket issues continuing to show up throughout the year, we can assume that panic buying is still happening in both the United States and Australia. Most of these issues deal with long lines or empty shelves, both real concerns for US and Australian citizens alike. This constant presence in the media of supermarkets either being empty or overcrowded definitely worsens the panic buying itself in both countries. If consumers are reading about empty shelves and long lines, this will increase their panic and cause them to try and take even more control through irrational behavior.

Supermarket Issues help show the severity of panic buying, but it also shows the differences between the Australian and US media coverage. Most of the data from Australia that was coded with supermarket issues were directly related to two other Nodes “Direct Discouragement to Panic Buy” and “Response to Lockdown.” As previously mentioned, Australia has had a much better response to coronavirus with total cases under 30,000. In comparison, the United States has averaged more than new 30,000 cases per day since June of 2020 (CDC,2021). This radical difference in not cases but response strategies also means that Australia is quick to enact short period lockdowns when new cases arrive. This causes almost all of the media surrounding panic buying to be directly following a government official enacting a short term lockdown in their city or state. So, most of the Australian articles are Direct Responses to Lockdowns where the United States’ unequal state regulations have led to lockdowns being infrequent in the United States. The only few reports from the United States that combine Direct Responses to Lockdowns and Supermarket Issues are from early 2020, when states were trying to implement stay-at-home orders. The connection between supermarket issues being directly related to “Direct Response to Lockdowns” posits that Australians are panic buying less frequently, but in shorter and more intense periods of time. With this higher intensity, there is also a higher frequency of “Direct Discouragement to panic buy” in the Australian media compared to the United States. It is not as biased as “Direct response to Lockdowns” but just over 70% percent of the mentions of “Direct Discouragement to Panic Buy” come from Australian media. This message predominantly comes from government officials and part of the National Cabinet but can also be seen being reiterated by supermarket executives. Direct Discouragement is can be

assumed is not an effective method as just as recently February 2021 has panic buying been reported in response to lockdowns in Melbourne. With the evidence pointing to direct discouragement being ineffective, the assumption can be made that direct discouragement only worsens the issues because it keeps the idea circulating in the media. Australia does not have a bad COVID-19 issue, it has handled its response and Australians should feel confident in their government and business. However, the evidence points to panic buying continuing in Australia. The United States government is rarely reported directly discouraging panic buying, either due to the fact government officials are not condoning the behavior or because they know it will exacerbate the issue. Either way, it is clear that Australia and the United States have reacted and reported differently on panic buying.

## **Conclusion**

Panic buying is a consumer misbehavior that has real world consequences. Panic buying can be seen in the stock market, in the supermarket, and almost anywhere goods are bought and sold. Different events can trigger panic buys, usually a perceived disaster by the consumer like a natural disaster or a wartime invasion. In 2020, Coronavirus came and spread quickly across the globe infecting millions. This was a pandemic and a disaster for many consumers, who in an attempt to regain control, fled to supermarkets and department stores in fear of empty shelves and no toilet paper. Panic buying was seen throughout the world as the virus exploded in different parts of the globe. This irrational behavior had been seen before but not for this long and due to one major pandemic. To study panic buying and how it has transformed over the pandemic, a content analysis was



done on Australian and US media coverage of panic buying during the pandemic. This scope was meant to capture the whole pandemic in both countries, since the first case in both countries to February 2021. Similarities were found and themes like supermarket issues, food shortages and toilet paper shortages appeared heavily in both US and Australian media, but differences were also found. These differences were created from the different government responses to the pandemic but also the intensity and language used by the media.

The study proved interesting results, showing similar and different themes between the two countries. Toilet Paper and Supermarket Issues were the main similarities between the two countries while “Direct Discouragement to Panic Buy” and “Direct Responses to Lockdowns” were mainly exclusive to Australia. This study showed highlights where the economy is most affected by panic buying, and how government response can have a great effect on mitigating panic buying. This study could prove as a building block for further studies examining panic buying, especially studies focused on the coronavirus. At some point in the future, the coronavirus pandemic will end which will then allow researchers to study the long-term effects of panic buying. This long-extended period of panic buying has not been seen by the modern world and studying this period of consumer misbehavior will be important in ensuring this does not happen again.

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