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Food and Beverage Bots – An Exploration of the Relationship Between Marketing Automation and Grocery E-Commerce

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Abstract

Chatbot technology holds immense potential to profitably upgrade the digital presence of food and beverage brands when properly applied to their online sales, marketing, and customer service strategies. This paper helps these brands in realizing the potential of this technology and prepares them to put themselves at the forefront digitally at a time when we are seeing a huge move towards online sales from businesses in this industry. It does this by examining the current relationship between chatbot technology and increases in revenue for grocery brands that are using e-commerce to grow their business online. This was accomplished through interviewing multiple owners of online grocery brands that utilize chat marketing as part of their digital strategy, conducting a survey of 30 consumer participants who have engaged in recent (i.e., within the past six months) interactions with chatbots, and reviewing both existing scholarly literature and news articles on the subject.

The findings ultimately suggest that although many brands in this sector are currently struggling to obtain a meaningful and measurable increase in revenue from implementing this technology, it is certainly time for food and beverage brands that sell their products online to adopt chat marketing. Furthermore, the best and most profitable way to do this is to build chatbots capable of engaging the customer in detailed conversations that forge meaningful relationships and lead to increased brand advocacy.

Introduction

Does implementing a chatbot as part of a digital marketing strategy lead to a significant increase in revenue for food and beverage brands using e-commerce to grow their business online? That question is what formed the basis for the rest of this paper.

Before that question is answered, it is important for the reader to understand the concept of chatbots and how their application can indeed lead to this increased revenue. According to TechTarget, a chatbot is defined as "a software application used to conduct an on-line chat conversation via text or text-to-speech, in lieu of providing direct contact with a live human agent" (Brush, 2017). These conversations are being carried out by a large and growing number of businesses (including online grocery brands) (Insider Intelligence, 2016) to facilitate communications related to B2C customer service, sales, and marketing (Beaver, 2016) via messaging apps, SMS, or directly through company apps and websites.

This study began with the hypothesis that the sharp and recent rise in both marketing automation via chatbots and online grocery sales would display a beneficial relationship between the two topics, given the benefits the former has provided B2C enterprises in other industries. It was also expected that the findings would show this relationship to be in its earliest stages. The rapid growth in these two areas and the lack of previous research on their relationship have led the author to believe it is a worthwhile endeavor to determine the answer to the previously mentioned research question. Although some foundational scholarly work has been published on the contributions of chatbots toward customer satisfaction and sales optimization, a literature review revealed no research on the contribution chatbots make to a grocery brand's overall revenue levels, which necessitates the information contained within this paper.

This research was undertaken to help online grocery brands understand how they can use automation and artificial intelligence to upgrade their digital sales, marketing, and customer service to be on the cutting edge. It was also written for digital marketing professionals who work for these brands or a third party with clients in this sector so they can use this technology to achieve superb results for relevant organizations.

Literature Review

The literature contained within this section provided me with an understanding of the level of research that had already been conducted on my topic and helped give me a base to build on. It consists of the following scholarly articles:

The impact of anthropomorphism on customer satisfaction in chatbot commerce: an experimental study in the food sector by Klein and Martinez

This was the first experimental study on consumer attitudes and satisfaction with chatbots in food e-commerce. It describes the fact that food retailers are lagging behind other industries in growing on digital platforms and makes the argument that this is partially due to a lack of innovative solutions related to the purchasing processes and services offered on their online platforms. The argument is then made that chatbots can be utilized to help grow these brands by providing customer-centric services while also benefiting retailers through the collection of consumer data. A strong emphasis is placed on the importance of anthropomorphism (i.e., human characteristics) in enhancing the customer experience and making these chatbots a success. To verify these hypotheses, a sample of 401 participants was divided into two groups, a test group that interacted with a standard chatbot that did not possess human-like characteristics, and a control group that interacted with the anthropomorphically designed chatbot. (Klein & Martinez, 2022) The results of this study confirmed the vast potential of anthropomorphism regarding chatbots and found a positive association with customer

behavioral variables such as enjoyment, attitude, and trust, all of which led to an enhanced customer experience. (Klein & Martinez, 2022). Based on the findings of this study, the suggestion was made that food retailers should immediately adopt chatbots as part of their omnichannel strategy and design them in a way that incorporates anthropomorphic characteristics.

Online Marketing Strategies of Food and Beverage Industries in Urdaneta City: Basis for Sales Optimization by Bautista and Belandres

This quantitative study collected data through questionnaires and face-to-face interviews on the use of successful online marketing strategies for sales optimization from 30 small businesses in the food and beverage industry within the city of Urdaneta in the Philippines. (Bautista & Belandres, 2022). Chatbots were one of the strategies analyzed, having been used by these businesses on their social media platforms to market products and communicate with customers. Their application showed excellent results. As shown in Figure 1, with the efficacy score (expressed as an average weighted mean) of other strategies in the social media marketing category being 2.87 (considered “effective”) and the overall efficacy score of marketing strategies across categories being 2.69 (also considered “effective”), chatbots received a score of 3.40 (considered “very effective”), making it the strategy with the highest score and one of only two strategies to receive this designation, implying a high degree of sales optimization. Additional benefits to brand recognition and overall profits were also noted by the authors of this study. These findings concluded that food and beverage brands with a digital presence benefit tremendously from using chatbots as marketing tools on social media platforms.

Social Media Marketing		
1. Using Chatbots to communicate with customers	3.40	Very Effective
2. Creating or curating content and using relevant hashtags	2.33	Effective
3. Creating a community or group for audience	3.27	Very Effective
4. Telling a story by going live	2.53	Effective
5. Using brand advocates or Influencers	2.80	Effective
Average Weighted Mean	**2.87**	**Effective**
Search Engine Optimization		
1. Creating a list of Keywords	2.53	Effective
2. Analyzing Google's first page	2.53	Effective
3. Adding Hook" that can use to build links to the content	2.40	Least Effective
4. Building links to the company page	2.60	Effective
5. Updating and re-launching older content	1.93	Least Effective
Average Weighted Mean	***2.40***	***Least Effective***
Overall Average Weighted Mean	**2.69**	

Figure 1 – Efficacy Levels of Digital Marketing Strategies for Food and Beverage Industry

Methodology

Primary Research

Interviews

Two interviews were conducted with the owners of brands in the food and beverage sector (Plantworthy Food and Parachute Coffee) who play active roles in the implementation of their company's digital marketing strategy to obtain expert opinions on the contributions chatbots have made toward the profitability of their brands. A series of qualitative research questions that examined the impact of chatbots on sales, revenue, customer relationships, difficulties/drawbacks with implementation, and foreseen contributions to the brand's long-term growth and success were asked.

Survey

A quantitative research survey that made use of convenience sampling and that targeted consumers who have recently (i.e., within the last six months) interacted with the chatbot of a food or beverage brand via Facebook Messenger or Instagram DM was conducted. 30 respondents from around the world

partook in this survey, answering questions on the helpfulness of chatbots throughout their customer journey and on whether these interactions ultimately increased their willingness to purchase food and beverage products online while enhancing their overall customer experience. The purpose of this survey was to determine whether this automated interaction influenced their buying behavior and to obtain a better perspective of their willingness to adopt this new technology.

Secondary Research

In addition to the scholarly works previously discussed in the literature review section of this paper, the following articles helped provide additional context that answered the research question.

How Alcohol Brands are Using Chatbots for Marketing

This article explores the growth in chatbot usage for marketing purposes among brands in the alcohol sector. It showcases the diverse ways and platforms these brands use marketing automation for and on to connect with their target audiences and support purchases (Mittal, 2020). Examples include Johnnie Walker's bot that provides customers with recipes and directs them to websites where they can purchase the alcohol and blending supplies needed to make them, or Vodka creator Absolut, which uses their chatbot to drive customers to bars where they can buy the product and redeem a special code for their free drink with the responsible bonus of allowing drinkers to get a ride home from Lyft. (Mittal, 2020)

Coca-Cola Is Embracing AI and Chatbots in Preparation for a Digital-First Future

This article from Adweek contains an interview with David Godsman, the Chief digital officer of Coca-Cola, on his company's efforts to incorporate chatbots into future customer service strategies. Despite his admission that the relationship between Coca-Cola and this technology was "very much still in its

infancy" (Swant, 2017), David sees potential to effectively use chatbots to increase convenience for customers by helping them "to find quick answers or to address thoughts that they have" (Swant, 2017). He further highlighted that testing of these strategies has begun at Coca-Cola and expressed eagerness to realize the full potential of chatbots for the brand.

The 12 Best Chatbot Examples for Businesses

One of the examples in this article by Hootsuite is DEWbot, a chatbot created by the energy drink brand Mountain Dew for use on Twitch, the world's leading live streaming platform, during Mountain Dew's "Rig Up" campaign. This chatbot was used to develop higher levels of customer advocacy and promotional engagement with their customer base (video gamers) by having DEWbot stream videos of top gaming hosts and professionals playing games, host live updates (including the announcement of championship winners), and push out polls on various gaming topics during a series of competitions that was ongoing during the time of the campaign (Christison, 2022). Although no direct information on revenue was released, it is notable that Dewbot ended up winning a Shorty Award for their engagement rate, based on the 550% increase in in-stream conversation they achieved (Christison, 2022), and it is possible that this increased engagement led to higher revenues for the brand during and immediately after the campaign.

Results

Qualitative

Some of the findings from the interviews conducted for qualitative research include the belief among grocery brand owners using e-commerce that chatbots are a great way to generate more ideas about the kinds of questions and concerns customers have. Another very important point is that brands need to strike a well-defined balance between automation and personalization, as a purely robotic experience is neither wanted by customers nor capable of delivering an exceptional customer experience that leads

to increased revenue, especially when dealing with complex questions or concerns. It was also evident that grocery e-commerce brands often prefer chatbots that can be built using templates and quickly deployed on messaging apps by using platforms like Manychat as opposed to building custom chatbots that are completely dependent on machine learning, given that the latter option can be quite expensive, particularly for smaller brands. Finally, it was apparent that many grocery e-commerce brands must improve their efforts to collect and measure data associated with their chatbot implementation strategy that is needed to track improvements (or lack thereof) in areas such as finances, customer relationships, and time savings instead of merely relying on a subjective approach.

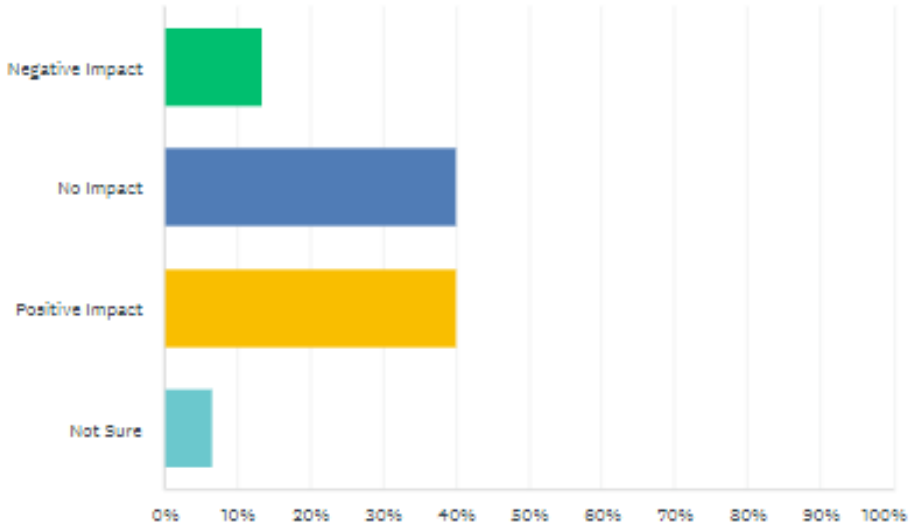
Quantitative

The first question (excluding the respondent ID question in Q1) was asked to develop a high-level overview of how chatbots employed by grocery brands have enhanced the overall customer experience. As seen in Figure 2, most respondents identified either a positive impact (40% - 12 respondents) or no impact (40% - 12 respondents).

Q2

What impact has your interaction with a chatbot on the social media page of a food or beverage brand had on your overall customer experience?

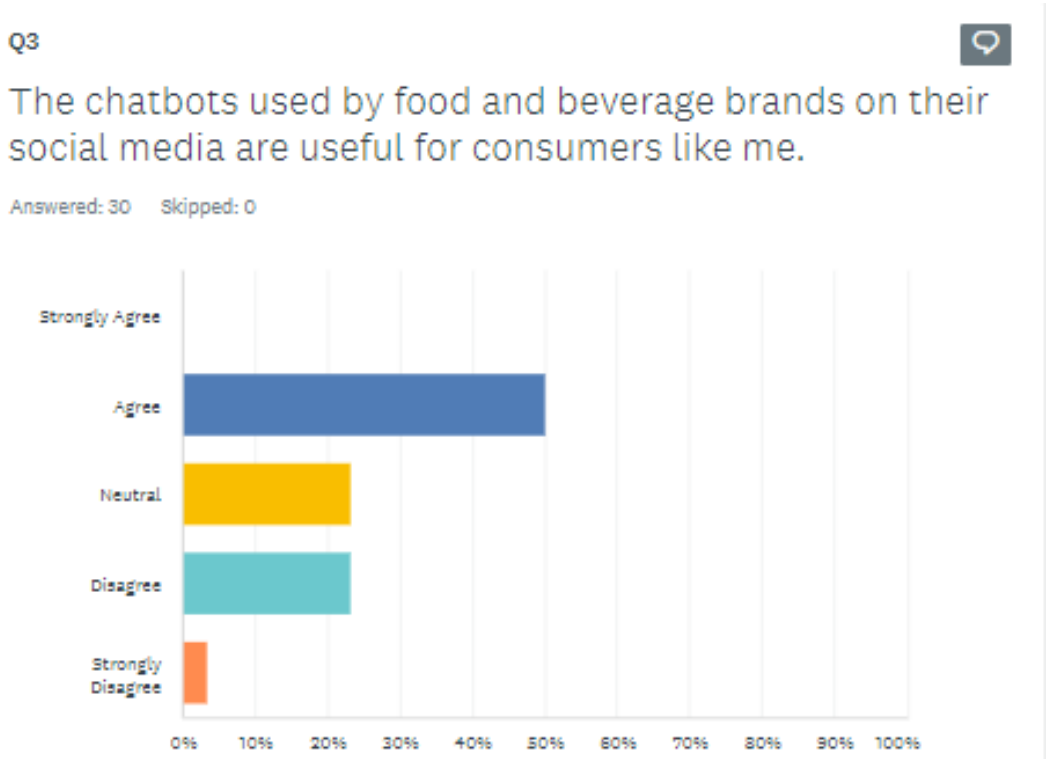
Answered: 30 Skipped: 0



ANSWER CHOICES	RESPONSES	
Negative Impact	13.33%	4
No Impact	40.00%	12
Positive Impact	40.00%	12
Not Sure	6.67%	2
TOTAL		30

Figure 2 – Impact of Chatbot Interaction on Customer Experience

The second question was asked to determine chatbot usefulness for online grocery consumers. As seen in Figure 3, half of the participants (15 respondents) agreed, with the remainder split between a neutral stance or outright disagreement.



ANSWER CHOICES	RESPONSES	
Strongly Agree	0.00%	0
Agree	50.00%	15
Neutral	23.33%	7
Disagree	23.33%	7
Strongly Disagree	3.33%	1
TOTAL		30

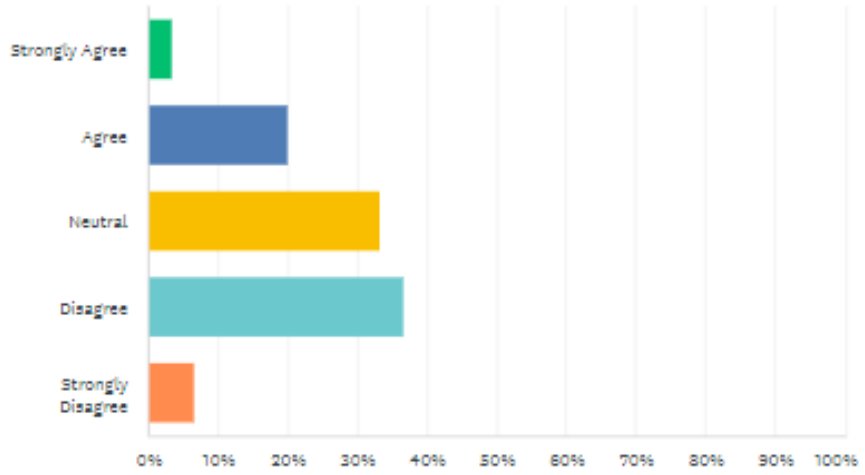
Figure 3 – Chatbot Usefulness for Consumers

The third question was asked to shift the customer's focus towards tangible results obtained from interacting with a chatbot that were reflected in their purchasing behavior (or lack thereof). As can be seen in Figure 4, consumers hold a range of beliefs on the influence chatbots have over their buying behavior, with 36.67% (11 respondents) disagreeing with the statement, 33.33% (10 respondents) having a neutral stance, and another 23.33% (7 respondents) either agreeing or strongly agreeing.

Q4

The presence of a chatbot on the social media of a food or beverage brand has increased my willingness to buy products from these brands online.

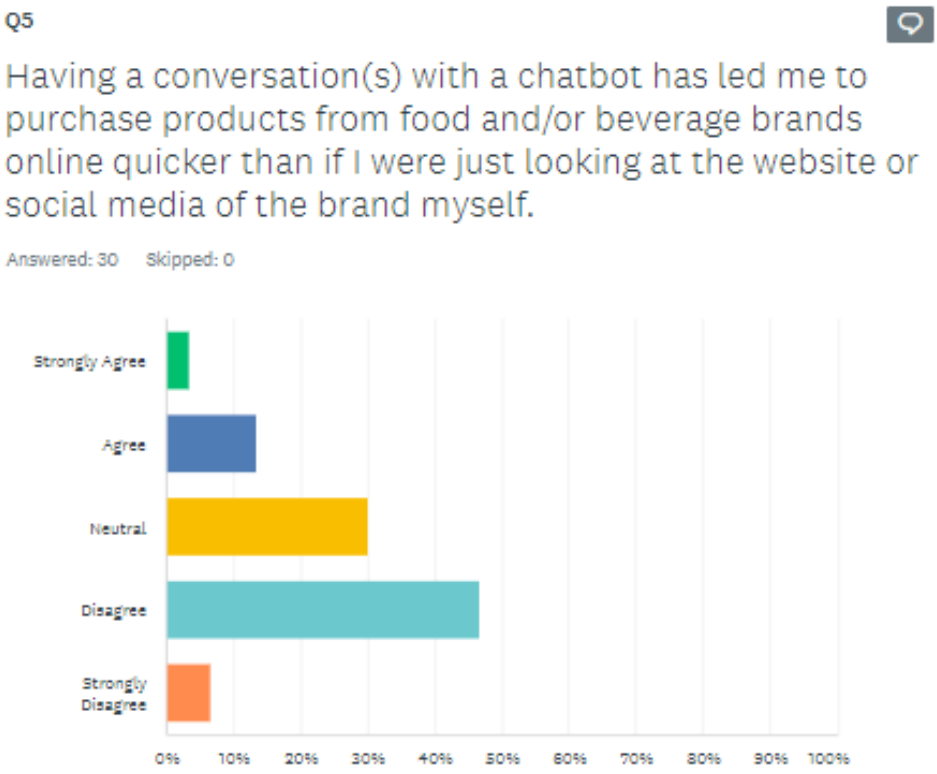
Answered: 30 Skipped: 0



ANSWER CHOICES	RESPONSES	
Strongly Agree	3.33%	1
Agree	20.00%	6
Neutral	33.33%	10
Disagree	36.67%	11
Strongly Disagree	6.67%	2
TOTAL		30

Figure 4 – Chatbot Presence and Potential Increase in Willingness to Purchase

The fourth question also relates to purchasing behavior, and as seen in Figure 5, the statement was either rejected or received with indifference by most respondents, with 53.34% (16 respondents) either disagreeing or strongly disagreeing and 30.00% (9 respondents) choosing a neutral position.



ANSWER CHOICES	RESPONSES	
Strongly Agree	3.33%	1
Agree	13.33%	4
Neutral	30.00%	9
Disagree	46.67%	14
Strongly Disagree	6.67%	2
TOTAL		30

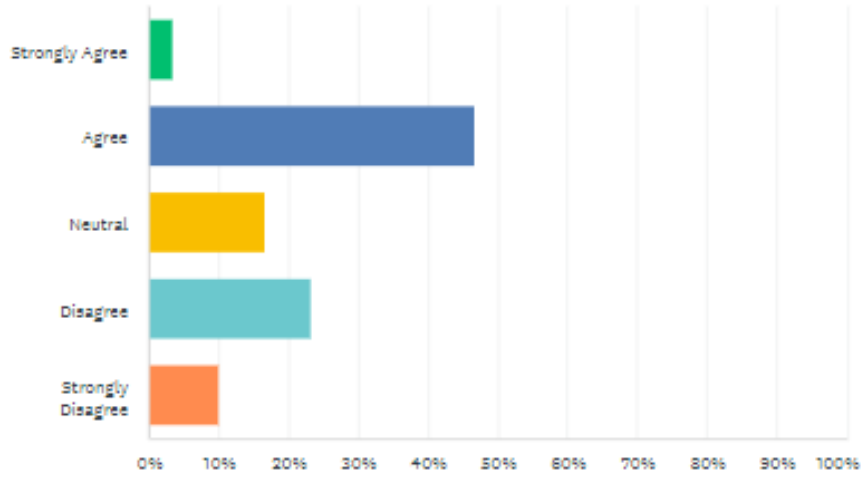
Figure 5 – Chatbot Conversations and Purchase Rapidity

The fifth question touches on the ability of chatbots to help consumers find products that relate to them and their tastes. As seen in Figure 6, participants responded more favorably to this aspect of conversational marketing, with 50% (15 respondents) agreeing or strongly agreeing with the statement and another 16.67% (5 respondents) holding a neutral view.

Q6

Having a conversation with a chatbot has helped me find food and/or beverage products that are tailored for my needs and tastes as a customer.

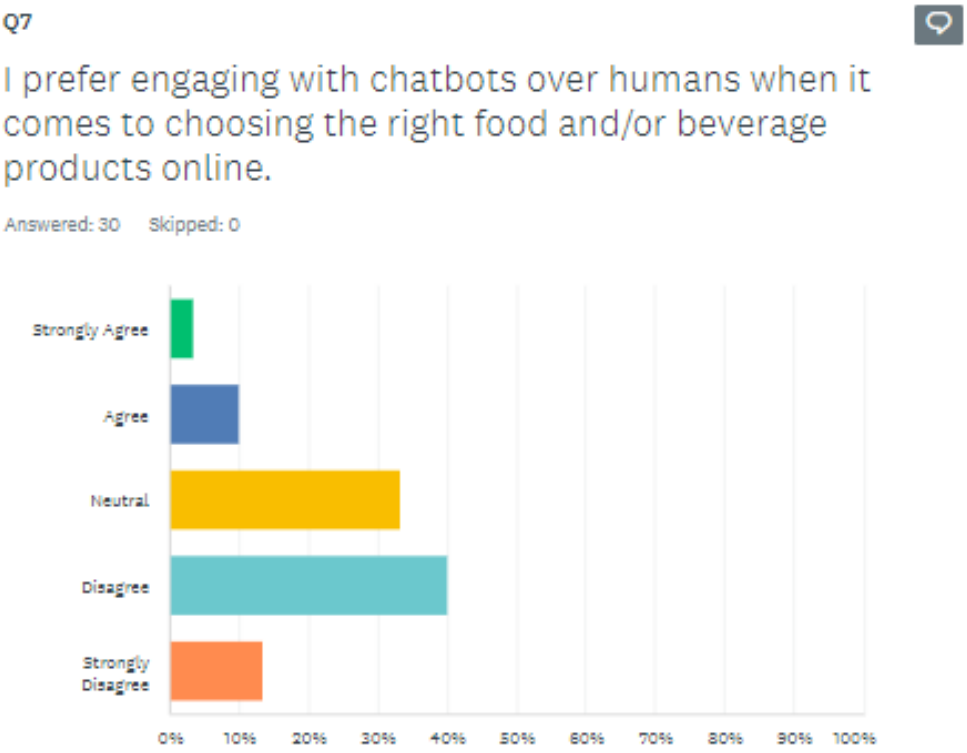
Answered: 30 Skipped: 0



ANSWER CHOICES	RESPONSES	
Strongly Agree	3.33%	1
Agree	46.67%	14
Neutral	16.67%	5
Disagree	23.33%	7
Strongly Disagree	10.00%	3
TOTAL		30

Figure 6 – Chatbot Conversations and the Finding of Relevant Products

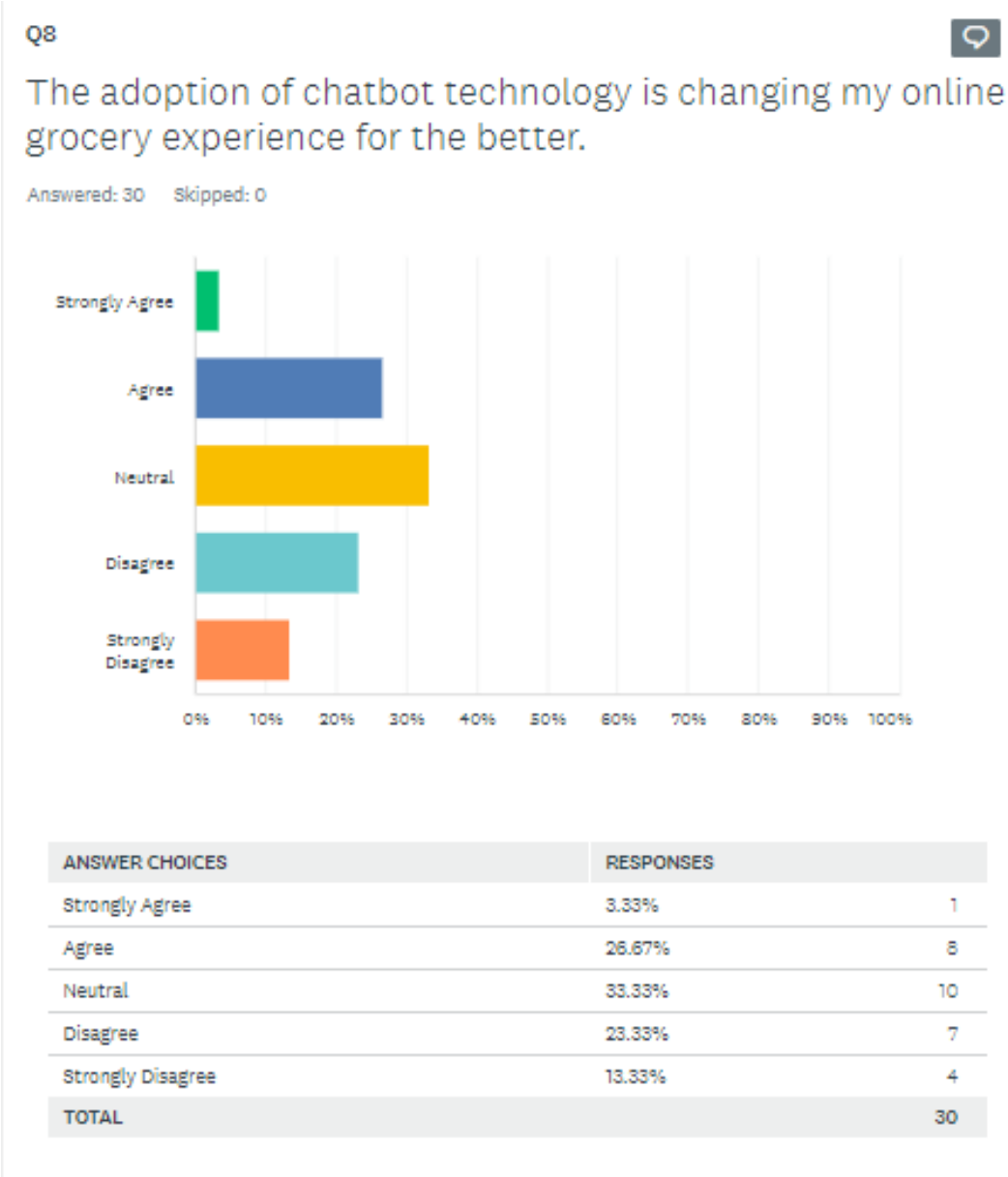
The sixth question examined the differences in consumer preferences between live human chat and automated chatbots. As shown in Figure 7, 53.33% (16 respondents) disagreed or strongly disagreed with the statement that an automated bot was more helpful than a live human, with a third (10) of respondents having no preference and 13.33% (4 respondents) preferring automated engagement.



ANSWER CHOICES	RESPONSES	
Strongly Agree	3.33%	1
Agree	10.00%	3
Neutral	33.33%	10
Disagree	40.00%	12
Strongly Disagree	13.33%	4
TOTAL		30

Figure 7 – Consumer Preference on Format of Chat Engagement

The responses to the seventh question capture consumers' feelings on how the increase in automated technology for marketing purposes is changing their digital grocery shopping experience. As shown in Figure 8, this was one of the questions where responses had a greater split, with 36.66% (11) respondents disagreeing or strongly disagreeing with the statement, a third (10) of respondents holding a neutral view, and 30% (9) of respondents agreeing or strongly agreeing with the statement.



ANSWER CHOICES	RESPONSES	
Strongly Agree	3.33%	1
Agree	26.67%	8
Neutral	33.33%	10
Disagree	23.33%	7
Strongly Disagree	13.33%	4
TOTAL		30

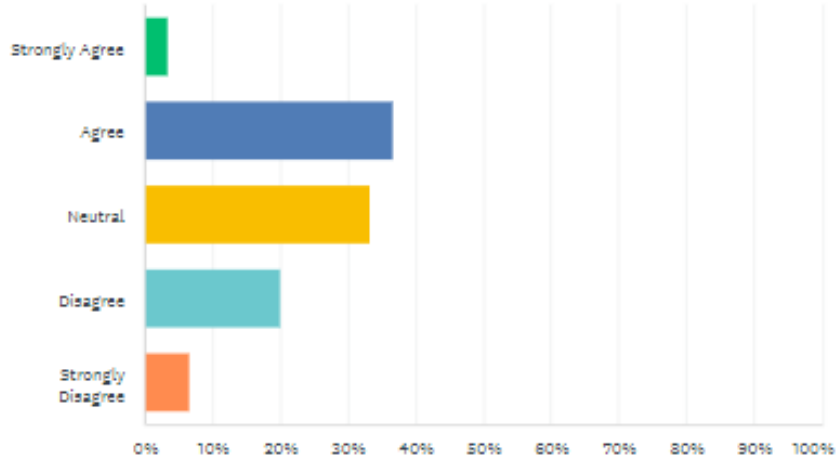
Figure 8 – Consumer Beliefs on Chatbots and a Changing Grocery Experience

The final question was asked to determine whether consumers would be more likely to make a digital grocery purchase when presented with additional information about the lineup of products offered by the brand. Compared to other survey questions dealing with purchasing behavior, participants resonated better with this one, with Figure 8 showing 40 % (12 respondents) agreeing with the statement, a third (10) of respondents holding a neutral view, and only 26.67% (8 respondents) disagreeing or strongly disagreeing.

Q9

I am more likely to buy a food and/or beverage product online when a chatbot provides me information about different products offered by the same brand and their potential differences.

Answered: 30 Skipped: 0



ANSWER CHOICES	RESPONSES	
Strongly Agree	3.33%	1
Agree	36.67%	11
Neutral	33.33%	10
Disagree	20.00%	6
Strongly Disagree	6.67%	2
TOTAL		30

Figure 9 – Chatbots and Additional Product Information

Discussion

The data collected from qualitative research illustrates the importance of building chatbots with a strong focus on customer support that contains human characteristics and a certain amount of personalization if a food or beverage brand wishes to grow its digital levels of sales and revenue. Also, it can be inferred that it is much easier for online grocery brands (particularly start-ups or smaller firms) to begin implementing this technology with the help of platforms that contain "plug-and-play" templates as opposed to more complex and expensive chatbot variants that require technical coding along with higher levels of artificial intelligence and machine learning to function. Of course, the importance of brands taking greater efforts to collect, process, and act based on the results of their internal data on this technology cannot be overlooked either.

Based on the quantitative research data collected for this report, it is apparent that although most digital grocery product consumers appreciate the ability to interact with a chatbot at some point along their customer journey and are aware of the help this automation can provide, these factors do not necessarily translate to a significant increase in revenue levels for online grocery brands. Particularly notable were the responses of consumers to questions four and five (shown in figures 4 and 5, respectively) which demonstrate strong levels of indifference or outright hesitancy to act upon the purchasing recommendations of chatbots. However, as shown in consumer responses to question nine (shown in figure 9), a greater willingness to purchase was shown when the chatbot expanded upon different products offered by the same brand and their potential differences. The results for question seven (shown in figure 7) indicate a strong consumer preference for human chat interaction over automated chatbots when choosing the right grocery products online. The insights obtained from these latter two questions indicate how important it is for online grocery brands to go beyond simple scripted

responses when building chatbots, instead seeking to include advanced functionality capable of engaging customers in thorough conversations that are helpful in the information they provide. There is also the possibility that for many brands, a live chat interaction with a human being could be more advantageous to their customers and a superior way of conversational marketing. It is also critical to consider the possibility of partiality in these responses as this survey was answered exclusively by consumers who have recently interacted with a chatbot, making them familiar with the technology. This provides a limited perspective and a potential response bias that may not reflect the views of the entire population.

The data discovered through secondary research shows that many brands in different categories throughout the food and beverage industry are either currently using, preparing to use, or exploring the possibility of adding chatbots to their digital marketing strategy. The brands that have already started have come up with multiple use cases and have seen beneficial results thus far.

Limitations

The first major limitation of this research is the small number of interviews conducted within a short time frame, which has produced a smaller-than-ideal amount of qualitative research data. Secondly, the use of convenience sampling (which was also chosen to satisfy the time requirements of this paper) produced a rather small survey sample size of 30 respondents when gathering the quantitative research data. Thirdly, (and perhaps most significantly), the newness of both chatbot technology and online grocery sales gives this research topic and the question associated with it a strong exploratory nature that comes with a severe shortage of information on the existing relationship between marketing automation via chatbots and the increase in revenue levels obtained by online grocery brands, which is

demonstrated in both the lack of scholarly literature and secondary research articles referred to in this paper.

Conclusions

In conclusion, it appears that although a well-designed chatbot that contains human-like characteristics and the right degree of personalization has tremendous potential to produce a significant increase in revenue for online grocery brands, further studies utilizing more data are needed for definitive evidence as consumers have shown that the chatbots currently used by these brands are helpful from a customer service perspective, but this does not necessarily increase the frequency of their purchases.

It is also clear that brands operating in the food and beverage sector which currently sell or have the desire to start selling their products online should certainly adopt chat marketing at this time, and the best way of doing this involves live chat with humans or automated chatbots that are easy to create and capable of engaging in more complex conversations that forge meaningful relationships with their target audiences.

Future Research Recommendations

Future researchers in this area would be wise to collect larger amounts of data (both qualitative and quantitative) assuming time permits. The amount of qualitative data can be increased by interviewing more employees of online grocery brands who are familiar with implementing this technology and interviewing employees of marketing agencies with food and beverage brands as clients, whereas quantitative data collection can be increased by using a larger sample size. Researchers should also make use of the larger amount of information that will likely be available when their research is conducted at a future date.

Additionally, the author believes that the results obtained from the seventh survey question (shown in Figure 7), introduce potential for future research to include elements of or even an entire paper on the question of whether conversational marketing is best employed by online grocery brands in a live format with another human or through automated chatbots. Further areas of study could include choosing to focus research solely on one major category (i.e., food brands OR beverage brands), focusing on industry sub-categories (i.e., the energy drink market), or on comparing the efficacy of chatbots in increasing revenue for grocery brands across different platforms (i.e., company website vs. Facebook Messenger vs. Instagram DM's).

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