Help me if you can: the advantage of farmers’ altruistic message appeal in generating engagement with social media posts during COVID-19

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Abstract
The purpose of this study is to establish which message appeal is more effective in generating consumer engagement with social media posts of small and medium-sized agri-food businesses that promote direct-to-consumer sales during a COVID-19 type crisis. Using quantitative content analysis, 1024 posts from 48 Israeli farmers’ Facebook brand pages were categorized into altruistic messages (ethnocentric, toward farmers, toward the environment, and maintaining public health) and egotistic messages (economic, emotional, functional, and hedonic values). The effectiveness of the message appeals was determined by consumer behavioral engagement (comments, shares and likes) with the posts. The results show that farmers used more egotistic arguments (mainly functional and hedonic motives) than altruistic arguments during the three stages of the crisis. However, a one-way ANOVA test revealed that posts with altruistic messages (specifically, altruism toward farmers) or posts that combine altruistic and egotistic motivations equally yielded significantly more consumer behavioral engagement. Practical recommendations regarding agri-food communications in times of crisis are given.

Keywords Social media · Direct-to-consumer (D2C) · Engagement · Crisis · Agri-food · Altruism · Egoism · Message appeal

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1 Introduction

The global Covid-19 pandemic caused disruptions in food supply chains around the world [1] which led small and medium sized agri-food businesses to shift sales from the business sector to individual local consumers [2, 3]. This shift involved constructing a new home-delivery-oriented operation model (or enhancing an existing one), including a direct-to-consumer supply chain targeted to local consumers [4]. This approach was also conjoined with the need of consumers for fresh produce while under lockdown and/or their fear of shopping in crowded shops because of the pandemic [2, 5, 6]. This mutuality of interests resulted in an increase in sales of fresh produce from small and mid-sized farmers directly to consumers [3, 7].

The shift to supplying produce to local individual consumers highlights an important aspect of the new ecosystem: consumers are now an important factor in the value exchange process [8, 9]. According to exchange theory, direct communication between small and medium agri-food enterprises and the consumer, mainly through social networks, is an important tool for motivating consumers to participate in the exchange process [10, 11]. This has created a substantial increase in the use of social networks by small and medium agri-food enterprises around the globe for direct communication with consumers [12–14]. Data from the Ifat Group (Ifat.co.il), a media monitoring company in Israel, reveals an increase of 260% among farmers using the Facebook advertising platform during the first five months of the pandemic compared to the previous period. Additionally, there was an increase of 221% in the number of paid posts. Most of the campaigns during the pandemic were small budget campaigns. Despite this growth, local farmers reported that their unfamiliarity with managing messages caused them difficulties when using the marketing communications channels [15]. Thus, it is highly important to understand how farmers can and should effectively use social media messaging. These messages, which are designed to influence consumers by appealing to their motivations and values, are referred to as message appeals [16]. Drawing on uses and gratifications theory (U&G) [17], consumers will choose to engage with message appeals on social media posts that most closely coincide with their own preferred values. Therefore, in order to engage consumers, the objective of social media posts is to provide value, or gratification, which is generated through message appeal [16]. Previous research shows that small and medium agri-food enterprises use altruistic and egoistic values in their marketing communication messages to promote sales [18, 19]. These motivations correspond with the U&G value perspective, which can be segmented into two diverse orientations: a social relationship-orientation (which corresponds with altruism) or a self-orientation (which corresponds with egoism) [16, 20, 21]. The question is: which of the values presented in the message appeals is more likely to engage consumers with social media posts during a crisis, in the context of agri-food produce?

A literature review of agri-food marketing reveals a research gap on three levels. First, most research on small and medium agri-food businesses is focused on
the financial aspect of direct-to-consumer sales [18, 22–24], with scant research attention to the marketing communication perspective. Second, hardly any discussion appears regarding which message appeal leads to higher consumer behavioral engagement with social media posts, especially during a crisis. Third, in terms of optimal effectiveness (i.e., forming favorable attitudes, purchase intentions, and actual purchase behavior), previous research findings on altruistic and egotistic messages have been contradictory [25]. Some studies favored altruistic messages [26, 27], others favored egotistic messages [25, 28], and others still found a combination of the two to be the most effective [29]. Closing these research gaps will clarify which approach is empirically supported. Furthermore, this issue is highly important for agri-food businesses that communicate, or intend to communicate directly to consumers during a COVID-19-like pandemic.

Accordingly, by monitoring farmers’ Facebook brand pages and analyzing their message appeals during the various stages of the COVID-19 crisis, the aims of the current study are threefold: (1) to explore the main message appeals (altruistic or egotistic) farmers use on their Facebook brand page; (2) to examine their effectiveness as reflected in consumer behavioral engagement (i.e., consumer likes, comments, and shares); and, since communication strategies should be adapted to the stages of a crisis [30], (3) to evaluate whether farmers’ communication messages changed as the crisis progressed through its various stages.

This research contributes to the literature on small and medium agri-food businesses. Its novelty begins with the fieldwork of collecting actual farmers’ posts during the COVID-19 crisis. By analyzing 1024 posts using mixed method quantitative content analysis, it sheds light on the messages that the farmers chose to use during three stages of the crisis. Moreover, it examines which message appeal is most effective in motivating consumer behavioral engagement. Thus, this study contributes to the debate on which message appeal (altruistic or egotistic) is preferable. Additionally, by adding the values that construct these altruistic and egotistic messages, the study provides a framework for identifying which type of social media message appeal creates more interaction. This facilitates theoretical and practical implications regarding small and medium enterprise (SME) social media communications in times of crisis.

2 Literature review

The COVID-19 pandemic disrupted SMEs, setting off a radical global transformation and causing a variety of financial problems [31, 32]. Some small and medium agri-food enterprises reacted by adjusting their sales from business-to-business channels (distributing produce to foodservice channels such as hotels, restaurants etc.) to direct-to-consumer sales [4, 33] using social media platforms to communicate with consumers. These consumers were switching to online shopping, since they were under lockdown and/or they avoided leaving home for fear of the pandemic [2, 33]. This transformation resulted in an increase in direct-to-consumer sales of local agricultural products [3, 7].
Small and medium agri-food businesses find it difficult to maintain a direct-to-consumer supply chain due to the high cost of operations [23]. These operations include marketing communication which is defined as how suppliers “represent themselves to their target audience with the goal of stimulating dialogue leading to a better commercial or other relationship” [34]. Identifying what motivates consumers to purchase agri-food products directly from farmers and accordingly implementing the right messages is one of the challenges of agri-food SMEs in their struggle for economic survival and success in a time of crisis [15, 24, 35]. Identifying these motivations contributes to an efficient exchange process; i.e., offering value in return for satisfying a need or want [10, 36].

The exchange process between marketers (such as farmers) and consumers (such as agri-food consumers) is also referred to as the value creation process, which means that the purpose of marketing communications is to generate profit by offering value that will satisfy consumers’ needs and motivate them to make a purchase [11]. Marketers use marketing communication tools (e.g., advertising, public relations, social media posts, etc.) to provide information to consumers about their products’ features, benefits and values. The main purpose is to motivate consumers to participate in the exchange process and to reinforce their satisfaction. In return, satisfied consumers will give back something of value to the marketer, which can take the form of money, admiration, loyalty, etc. [10, 11, 36]. Accordingly, the current study’s context is farmers who enhanced their use of unpaid (organic) posts published on their Facebook brand page during the COVID-19 crisis [12–14]. These posts are intended to facilitate the exchange process by providing information about the availability of products and value in buying farmers’ produce. This message delivery is referred to in the literature as message appeal [16, 37]. Message appeal motivates consumers to participate in the exchange process. Their participation is manifested by behavioral engagement with the posts; i.e., their feedback in the form of likes, comments and shares [38, 39].

2.1 Consumer engagement with Facebook posts

In the current research, consumer engagement with Facebook posts refers to consumer actions such as liking, sharing and/or commenting on the post [16, 40], which is also referred to in the literature as behavioral engagement [41, 42]. Uses and gratification theory [17] considers the utility of communication as a core driver of media content choice. This perspective conceptualizes individuals as proactive and utilitarian decision makers who select media content based on the extent to which it gratifies their needs. The theory was further extended to apply to gratifications on social media [16, 43, 44] by examining how consumers engage with social media content that provides them with a value [16, 45], and dividing consumer needs into two main orientations: a social relationship orientation and a self-orientation [46–48]. Previous research on consumer behavioral engagement with social media posts was found to be dependent on factors such as post content [49, 50], characteristics [51, 52], and quality [53, 54]. Moreover, consumer online behavioral engagement with
social media brand posts was also found to increase intention to purchase the promoted products [53, 55], and can ultimately be translated into sales [56].

The literature indicates that agri-food SMEs often use various altruistic and egoistic aspects as appeals to motivate consumers to buy directly from them [19, 57]. These aspects reflect the dichotomous values of self-orientation (presented as egoistic appeals) and of social relationships (presented as altruistic appeals), as suggested by U&G theory. The following sections describe egoistic and altruistic values, and their sub-dimensions, which may be used as message appeals in social media posts.

2.2 Egoistic and altruistic motivations

Egoistic and altruistic motivations are often used as drivers for promotional message appeals and to explain individual purchase decisions [25, 58]. These motivations are chosen to fit the personality and perceptions of target audiences. Thus, egoistic motivation appeal is derived from the target audience’s personality trait associated with self-interest. The egoistic individual is defined as one who “seeks to attain self-gratification through serving his or her self-interests and welfare” [57]. Alternatively, altruistic motivation appeal is derived from the target audience’s general perception associated with pro-social behavior. The altruistic individual is defined as having “empathic concern for others without seeking a personal benefit” [57]. Thus, altruistic consumers will make a direct purchase of agriculture products in order to improve the welfare of others, while egoistic consumers will make the same purchase with the intention of improving their own wellbeing [25].

Although broad research concerning the food industry and food advertising deals with the effectiveness of altruistic and egoistic message appeals (e.g., [26, 35, 59–62]), there is still disagreement over which of these two motivations is more effective in generating positive consumer responses [58].

Jäger and Weber [26] found that altruistic messages (such as environmental benefits) are more effective in increasing purchase intentions than egoistic messages (such as health advantages) in buying organic food. Alternatively, Kareklas et al. [29] found that persuasive messages which include both egoistic and altruistic claims about organic food are more favorable than only one of the claims. However, Yadav [28] found that while both altruistic and egoistic values are involved in consumer decision processes, the latter has more of an impact on the intention of younger consumers to buy organic food.

As for actual consumer behavior in terms of buying agri-food, most research has been carried out in the context of farmers’ markets. Ciccia et al. [27] found that consumer attitudes toward the environment (i.e., altruistic-environmental motivations) has a direct influence on more frequent purchases in farmers’ markets. Giampietri et al. [63] found that contributing to farmers’ income and direct contact with the farmer (i.e., altruistic-social motivations) also motivate consumers to buy directly from farmers. Additionally, it was found that egoistic motivations to consume local food influence consumers more than altruistic motivations [25]. However, Kol et al. [2] found that altruistic values had a significant effect on consumer considerations and actual behavior in buying local agri-food during the COVID-19 crisis.
The literature suggests that altruistic and egoistic motivations are constructed by various aspects of consumers’ perceived values. Thus, based on the literature, the following sections elaborate on these perceived values and offer a more comprehensive framework for egoistic and altruistic motivations.

2.2.1 Egoistic motives

Research suggests varied egoistic consumer motives (values), which agri-food businesses included in their messages (i.e., economic motive, functional motive, emotional motive and hedonic motive). Economic motive describes the consumers’ need to reduce the resources expended in the buying process such as time, effort, and money [64, 65]. From this perspective, buying agri-food products directly from farmers may have economic value as they are delivered locally (saving time and effort) and at reduced price due to intermediator reduction [66]. Functional motive refers to the utility derived from the perceived quality and expected performance of the product [67]. In this context, agri-food consumers appreciate values such as quality, freshness, availability, and nutrition, which will ensure that they fulfill their need for quality food [25, 38]. Emotional motive represents the utility derived from the feelings or affective states that a product generates and the ability of a product to inspire positive feelings or emotional states [67–69]. Buying directly from farmers might evoke emotional values such as self-satisfaction, pleasure, and arousal [20]. Finally, hedonic motive describes consumer desire for a sensory experience involved in purchasing and eating agri-food products. It includes hedonic enjoyments such as aesthetic pleasure (beautiful looking fruit, vegetables and flowers), sensual pleasure (taste and smell), and fun [70].

2.2.2 Altruistic motives

Research suggests varied egoistic consumer motives (values), which agri-food businesses included in their messages: ethnocentric, social, and environmental. Ethnocentric motive refers to individual patriotic feelings that reflect consumer preference for buying products originating from one’s own country [71]. It evokes consumer loyalty and preference for national products over imported foreign products [72, 73]. Social motive represents activity devoted to helping one’s social community during a crisis [74, 75]. This includes financially supporting local businesses and the domestic economy as well as preventing loss of jobs [63, 72, 76, 77] and contributing to public health by enhancing the availability of fresh food to the local communities [74, 75]. Thus, consumers’ social motivation may affect their decision to buy agricultural products to either help local farmers (societal motivation) or help farmers to promote public health in times of crisis. Environmental motive involves consumer concerns for the biosphere, including “the commission of acts that benefit the natural environment… and the omission of acts that harm it” [78]. Buying local food products is associated with reducing the environmental costs related to food distribution by minimizing the emission of toxic gases [74, 79]. Thus, consumers may buy directly from farmers for ecological benefits [63].
To summarize, this review of the agri-food literature supports the notion that egoistic and altruistic motivations are comprised of various sub-values that may be instrumental in shaping message appeals of agri-food SMEs. Yet determining which motivation is more favorable for promoting agri-food is a subject of debate. Moreover, the relative effectiveness of each motivation has yet to be examined in a time of disruptive change caused by a crisis such as COVID-19. Hence, the following research questions were formulated:

RQ1: What are the main message appeals (altruistic or egoistic) farmers used in their Facebook brand page communications during the COVID-19 pandemic?

RQ2: Which message appeals were more effective in achieving consumer behavioral engagement (i.e., consumer likes, comments, and shares)?

There is evidence that during COVID-19, agri-food SMEs faced various stages of crisis [80–82]. As noted, communication strategies should be adapted to the particular stage of a crisis [30]. Therefore, the next question examined whether farmers varied message appeals during the different stages of the crisis:

RQ3: Were there any changes in farmer message appeals as the COVID-19 crisis progressed?

3 Method

The study applied quantitative content analysis to Facebook posts uploaded during the six month period from the beginning of the COVID-19 crisis on March 13, 2020 to September 18, 2020. The importance of this time period is explained in detail in a following sub-section. Facebook was chosen as the platform for analysis due to its high level of penetration in Israel: 70.5% [83]. Quantitative content analysis is a systematic method used for analyzing communication content, applying a coding book for categorization and statistical methods to describe phenomena and aspects of communication content [84, 85].

3.1 Study population

In this study, data were collected from Ifat Group, an Israeli media monitoring and business information company. The data included the active Facebook pages of 48 farmers in total from which all posts were collected during the abovementioned period. Of 1030 collected posts, 1024 posts were found to include messages regarding distribution of food from local farmers directly to consumers. Almost all posts contained both text and visual image, except for 24 text-only posts.
3.2 Coding

A detailed coding category was compiled for the coding book, based on previous studies (see detailed information below). Since most posts contained two parts, i.e., text and visual, the coding book referred to each separately. The coding book consisted of the following categories:

(1) **Period:** in order to examine whether the main messages of the posts changed as the crisis progressed, three stages were identified (see Table 1) by the date the post was uploaded to Facebook.

*Stage 1—March 14 to April 15, 2020:* RESTRICTIONS. The first COVID-19 case in Israel was detected on February 27th 2020. A few days later, restrictions regarding mass events were imposed by the Israeli government. On March 14th 2020, hotels, restaurants and ballrooms were ordered to close, and by April 4th markets were also closed and citizens were not allowed to go more than 100 m from their homes. Consequently, many farmers were left with fresh produce originally earmarked for the local business sector such as hotels and restaurants that had stopped working [15]. They also experienced a dramatic decline in the export of Israeli agricultural products [80].

*Stage 2—April 16 to June 14, 2020:* RELIEF. As a result of the restrictions, COVID-19 morbidity decreased, and restrictions were eased. The demand for agri-food by the business sector such as hotels, restaurants, and markets resumed, as did the demand for the export of Israeli agri-food worldwide [81].

*Stage 3—June 15 to September 18, 2020:* UNCERTAINTY. Morbidity began to increase and from time-to-time restrictions were re-imposed. Farmers, like other businesses, had to deal with uncertainty [82].

(2) **Post main message appeals:** the main message appeals farmers used were categorized into three options: Altruistic, egoistic or both equally (adapted from [57, 86]). ‘Both equally’ means that the main message of the post manifested both altruistic and egoistic messages to such an extent that coders could not choose one main message and so coded the post as ‘both equally’. For altruistic message appeal, the post had to be mainly “other oriented”, using words such as “we”, “our” and “us” in the text and/or include visuals of a group of farmers and/or their farms. For egoistic message appeal, the post had to be mainly “self-oriented”, using words such as “you” and “your” in the text, and visuals of happy consumers, consumers eating the products, or a visual of prices and promotional offers.

(3) The altruistic and egoistic message appeals were further coded into four types of altruistic motives and four types of egoistic motives.

(3.1) For altruistic message appeals, a distinction between concern for the country (ethnocentrism), farmers, environment and public health was coded.

(a) For *ethnocentrism*, the post had to present text that shows positive feelings and devotion to the country (adapted from [72]), using words that arouse patriotic feelings such as “save Israeli agriculture” [87] or messages encouraging the purchase of local products over imported ones...
Help me if you can: the advantage of farmers’ altruistic message...

| Stage 1—March 13 to April 15, 2020 | RESTRICTIONS | Farmers were left with fresh merchandise intended for the local business sector and for export |
|-----------------------------------|--------------|------------------------------------------------------------------------------------------------|
| Stage 2—April 16 to June 14, 2020 | RELIEF       | The demand for agri-food by the business sector and for export resumed                          |
| Stage 3—June 15 to September 18, 2020 | UNCERTAINTY | Restrictions were resumed and then lifted. Farmers had to deal with uncertainty                  |
[73]. For the visual image, coders looked for state symbols such as the flag or flag colors [87]. (b) For altruism toward farmers, the text had to present the farmers as people in distress in need of the consumers’ help. For the visual image, pictures of agricultural produce surplus and/or sad old farmers were identified. (c) For altruism toward the environment, the post had to describe the benefit of reducing air-pollution by buying directly from farmers [19]. In the visual image, one or more of these elements were observed: pictures of wild animals or natural landscape as well as familiar eco-friendly graphic symbols and logos (green leaf, recycling etc.) [88]. Finally, (d) maintaining public health was identified with text addressing health-related elements such as organic status and freshness that are presented as public health concerns (adapted from [89]). In the visual image, coders looked for pictures of agricultural products with logos or symbols of organic produce.

(3.2) For egoistic message appeals, coding distinguished between economic, emotional, functional and hedonistic motives. (a) Economic motive was coded with the use of text emphasizing the monetary value of purchasing agricultural products directly from the farmers, using words such as “sale”, “promotion”, “gift”, “good value for money” or “saving money” along with visuals such as a highlight of special prices (adapted from [64]). (b) Emotional motive was coded with the use of words that carry psychological and emotional meaning which suggest that buying the products will make consumers feel better, such as “feel good about yourself” and “self-care”. The visual image had to support the text with colorful pictures of happy consumers (adapted from [20]). (c) Functional motive was coded by depicting text in the post which describes how buying products directly from the farmer will help consumers by making the produce safer, more available, and convenient (adapted from [38]), with visuals of delivery vehicles and/or packed products ready to be delivered. (d) Hedonic motive was coded when the post used words describing an aesthetic/sensory experience of pleasure [70], while the visual was characterized as exemplifying hedonic experience such as a couple eating or drinking wine in a romantic setting, children running in a field, etc.

(4) Consumer behavioral engagement was coded by counting consumer behavioral reactions to the post: number of comments, shares and likes for every post [40], as attached to each Facebook post. Additionally, in order to control for the possible effect of sentiments of behavioral engagement, sentiment analysis was performed for all the emoticons in the likes [90].

3.3 Reliability

The coding process was performed by two trained coders, who separately coded all the posts, without being aware of the research goals. Reliability of
the codification was assessed for each category in the entire sample. Cohen’s kappa inter-coder reliability [91] was computed to measure agreement between coders and ranged between $k = 0.739$ and $k = 0.934$, indicating an acceptable level of reliability in content research [92]. The results were as follows: Post main message appeal in the text was $k = 0.854$; post main message appeal in the visual image was $k = 0.793$; altruistic motivation in the text was $k = 0.934$; altruistic motivation in the visual image was $k = 0.896$; egoistic motivation in the text was $k = 0.769$; egoistic motivation in the visual image was $k = 0.839$. For posts that integrate both motivations equally: altruistic message in the text was $k = 0.95$; egoistic message in the text was $k = 0.794$; altruistic motivation in the visual image was $k = 0.890$, and egoistic motivation in the visual was $k = 0.742$. Five cases of disagreement between coders were resolved during joint discussion.

| Main message appeal | Valid percent (frequency) | Motives                        | Valid percent (frequency) |
|---------------------|---------------------------|--------------------------------|---------------------------|
| Altruistic (text)   | 8.4 (86)                  | Ethnocentrism—text             | 30.2 (26)                 |
| Altruistic (visual) | 17.3 (173)                | Ethnocentrism—visual           | 5.1 (8)                   |
|                     |                           | The farmers—text               | 38.4 (33)                 |
|                     |                           | The farmers—visual             | 14 (88)                   |
|                     |                           | The environment—text           | 3.5 (3)                   |
|                     |                           | The environment—visual         | 80.9 (127)                |
|                     |                           | Maintaining public health—text | 27.9 (24)                 |
|                     |                           | Maintaining public health—visual| 0                        |
| Egoistic (text)     | 67.8 (694)                | Economic value—text            | 16.5 (115)                |
| Egoistic (visual)   | 75 (750)                  | Economic value—visual          | 11.5 (84)                 |
|                     |                           | Emotional value—text           | 22 (153)                  |
|                     |                           | Emotional value—visual         | 3.6 (26)                  |
| Both equally (text) | 23.8 (244)                | Functional value—text          | 51.1 (356)                |
| Both equally (visual)| 7.7 (77)                  | Functional value—visual        | 51.4 (375)                |
|                     |                           | Hedonistic value—text          | 10.5 (73)                 |
|                     |                           | Hedonistic value—visual        | 33.5 (244)                |
4 Results

To answer the first research question, we analyzed post main message appeal—altruistic versus egoistic (or both equally)—in the text and visual image, and further analyzed the distinct motives for each motivation. Table 2 shows that in both text and visuals, farmers used more egoistic message appeals than altruistic message appeals in their posts.

Specifically, when egoistic motivation was the main message appeal, the farmers concentrated on functional and emotional motives. However, when altruism was the main message appeal, altruistic feelings toward the farmers were the most frequent messaging used, followed by ethnocentrism and maintaining public health.

The second research question relates to the effectiveness of the various message appeals used by the farmers, that is, the relationship between the message appeals (altruistic, egoistic and both altruistic and egoistic equally) presented in the posts and consumer interactions with the posts: comments, shares, and likes.

To answer the question, we first conducted sentiment analysis of all “likes”, to ensure positively oriented interactions and to confirm that negativity is not a concern here. The available emoticon (emoji) reactions for Facebook were divided into three emotional categories [90]: positive (e.g., like, love and care), polarity/defined by context (e.g., ha-ha and wow) and negative (e.g., sad, and angry). The results show that sentiments (N = 85,525) were almost entirely positive (99.2%), a few were in the polarity condition (0.7%) and only negligible sentiments were negative (0.1%).

Next, in the text condition (see Table 3), one-way ANOVA tests for the main message appeals showed significant differences among the three messages in number of ‘shares’ (F = 8.99, p < 0.01) and ‘comments’ (F = 4.82, p < 0.01), but not in the ‘likes’ interaction. Specifically, in the three conditions ‘likes’, ‘shares’ and ‘comments’—altruism received the highest mean score (M = 116.8, SD = 14.27, M = 85.1, SD = 11.07, M = 451.9, SD = 51.83, respectively).

| Engagement | Message appeal | N  | Mean | Std  | F    | Sig |
|------------|----------------|----|------|------|------|-----|
| Like       | Altruism       | 76 | 451.9| 51.83| 1.54 | .215|
|            | Egoism         | 739| 279.2| 10.27|      |     |
|            | Both equally   | 206| 216.3| 15.07|      |     |
|            | Total          | 1021| 284.7| 8.9  |      |     |
| Share      | Altruism       | 67 | 116.8| 14.27| 8.99 | .000|
|            | Egoism         | 677| 36   | 1.38 |      |     |
|            | Both equally   | 191| 82.3 | 5.95 |      |     |
|            | Total          | 935| 57.8 | 1.89 |      |     |
| Comment    | Altruism       | 59 | 85.1 | 11.07| 4.82 | .008|
|            | Egoism         | 520| 43.6 | 1.91 |      |     |
|            | Both equally   | 153| 72.7 | 5.88 |      |     |
|            | Total          | 732| 55.4 | 2.04 |      |     |
Help me if you can: the advantage of farmers’ altruistic message…

For the visual condition (see Table 4), the one-way ANOVA tests showed significant differences among the three post message appeals in all interactions with the post: ‘likes’ \( (F = 10.65, p < 0.01) \), ‘shares’ \( (F = 12.37, p < 0.01) \) and ‘comments’ \( (F = 5.75, p < 0.01) \). In this case, the integration of both altruism and egoism in the message appeal gained the highest mean score in all three interactions: ‘likes’, ‘shares’ and ‘comments’ (M = 220.7, SD = 579.95, M = 49.5, SD = 5.95 and M = 72.7, SD = 5.88, respectively). Altruism had the second highest mean score (M = 80.1, SD = 263, M = 34.1, SD = 108.74 and M = 22.7, SD = 75.71, respectively) and egoism the lowest mean score in all interactions (M = 68.7, SD = 236.76, M = 19.1, SD = 31.42 and M = 19.8, SD = 44.37, respectively).

| Table 4 | One-way ANOVA test between message appeals in the visual and engagement |
|---------|------------------------------------------------------------------|
| Engagement | Message appeal | N | Mean | Std | F | Sig |
| Like | Altruism | 157 | 80.1 | 263 | 10.65 | .000 |
| | Egoism | 758 | 68.7 | 236.76 | | |
| | Both equally | 83 | 220.7 | 579.95 | | |
| | Total | 998 | 83.1 | 287.73197 | | |
| Share | Altruism | 146 | 34.1 | 108.74 | 12.37 | .000 |
| | Egoism | 696 | 19.1 | 31.42 | | |
| | Both equally | 77 | 49.5 | 89.92 | | |
| | Total | 919 | 24 | 58.08 | | |
| Comment | Altruism | 115 | 22.7 | 75.71 | 5.75 | .003 |
| | Egoism | 531 | 19.8 | 44.37 | | |
| | Both equally | 70 | 43.8 | 85.36 | | |
| | Total | 716 | 22.6 | 55.91 | | |

Table 5 Descriptive statistics for engagement by altruistic motives

| Engagement | Altruistic motives | N | Mean | Std. Deviation |
|------------|--------------------|---|------|----------------|
| Likes | Ethnocentrism | 26 | 33.5 | 28 |
| | The farmers | 33 | 256.8 | 719.4 |
| | The environment | 3 | 32 | 30.5 |
| | Public health | 24 | 105 | 173.2 |
| | Total | 86 | 139.1 | 461.2 |
| Shares | Ethnocentrism | 22 | 10.1 | 11.8 |
| | The farmers | 28 | 77 | 169.1 |
| | The environment | 3 | 34.6 | 28.3 |
| | Public health | 21 | 16.5 | 18.1 |
| | Total | 74 | 38.2 | 108.1 |
| Comments | Ethnocentrism | 19 | 10.2 | 13.2 |
| | The farmers | 28 | 59.1 | 118.9 |
| | The environment | 2 | 10 | 8.4 |
| | Public health | 15 | 15 | 16.2 |
| | Total | 64 | 32.7 | 82 |
Since the results showed that using altruism in the text is more effective for consumer behavioral engagement, we further examined which of the distinct altruistic motives is the most effective (Table 5). It was found that for all interactions with the altruistic posts, altruistic feelings toward the farmers received the highest mean (likes: M = 256.8, SD = 719.5; Shares: M = 77, SD = 169.1; Comments: M = 59.1, SD = 118.9).

Additionally, we found that the number of posts farmers used grew as the crisis evolved: 283 posts were posted in the first period, 319 in the second period, and 422 in the third period. Next, to answer the third research question about the relationship between crisis progression and message appeals presented in the posts, Chi-Square tests were used. For the text, we found a relationship between crisis stage and message appeal used in the posts ($X^2 = 17.85, p < 0.01$), while for the visuals the relationship was not significant ($X^2 = 6.93, p > 0.05$). Table 6 shows a contrast of trends in using message appeals: a decrease in altruistic message appeals with an increase of egoistic message appeals during the three stages of the crisis.

## 5 Discussion and conclusion

During a time of crisis such as the COVID-19 pandemic, when routine agri-food distribution channels and sales are disrupted, it is essential for agri-food SMEs to communicate effectively with consumers and to adapt their message appeals to the latter’s set of motivations [93]. This study presents a quantitative content analysis of message appeals in social media posts. These posts were intended to motivate consumer engagement in order to trigger direct purchase of local agriculture products [56]. The most interesting and surprising finding of the current research is that while farmers concentrate mainly on egoistic message appeals, the message appeals that yielded significantly higher behavioral engagement (likes, shares and comments) are altruistic in nature or clearly combine both altruistic and egoistic messages. That is, during a crisis, consumers are motivated more by messages based on helping others than those focused on self-benefit. These findings make a significant contribution to

| Table 6  | Motivations by crisis period—percent within all posts and frequency |
|----------|---------------------------------------------------------------------|
| Motivation | 1st period | 2nd period | 3rd period | Total |
| Altruism (text) | 44.2 (38) | 27.9 (24) | 27.9 (24) | 100 (86) |
| Altruism (visual) | 34.7 (60) | 30.1 (52) | 35.3 (61) | 100 (173) |
| Egoism (text) | 24.2 (168) | 32.4 (225) | 43.4 (301) | 100 (694) |
| Egoism (visual) | 25.6 (192) | 31.6 (237) | 42.8 (321) | 100 (750) |
| Both equally (text) | 30.7 (75) | 29.5 (72) | 39.8 (97) | 100 (244) |
| Both equally (visual) | 27.3 (21) | 27.3 (21) | 45.5 (35) | 100 (77) |
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the debate on which motivation, altruistic or egoistic, is more effective for promoting agri-food products [58] with an emphasis on the context of a crisis.

These findings can be viewed in light of the low self-control perspective which explains the positive relationship between crisis and consumers’ altruistic inclinations [94, 95]. This suggests that helping others in times of crisis helps individuals to reduce their own anxiety and maintain self-control [95, 96]. Additionally, self-affirmation theory [97, 98] adds another point of view to individuals’ motivations to help others in a time of crisis. This theory asserts that individuals are motivated to maintain their self-integrity, which includes being a good group member. Thus, a threat to self-integrity, such as a pandemic, may result in a defensive state that increases motivation to help one’s society in order to help one’s self [99]. Hence, in our case, altruism is found to be a self-integrity mechanism which leads to higher behavioral engagement. Moreover, these findings correspond to a recent study indicating that altruism is positively connected to the attitude toward buying directly from farmers, and, consequently, to increasing local food buying during the COVID-19 pandemic [2].

The current research findings add a further important insight into altruistic motive-based messaging. In the case of agri-food marketing during a crisis, a message appeal that concentrates on helping farmers will generate more behavioral engagement than other altruistic motives such as altruism toward the state (ethnocentrism), public health or the environment. This insight may be explained by the cultural-social aspect of a sustainable short supply chain. Offering agri-food produce with a direct-to-consumer supply chain is a tool for encouraging the bond between farmers and consumers while developing local communities. This is also referred to as social sustainability since local food helps provide for the well-being and resilience of local communities during a crisis, making fresh food more available [74, 75]. Hence, in a time of pandemic, the ultimate altruistic message appeal (i.e., toward the farmers) corresponds with the consumers’ need to privilege the well-being of local community over general society [76].

The literature suggests that communication strategies should be adapted to the particular stages of a crisis [30]. Our findings demonstrate that as the crisis evolved, the farmers increased the number of overall posts. However, instead of increasing the altruistic message appeals, they increased the egoistic ones. This conclusion corresponds with an Israeli Ministry of Agriculture and Rural Development survey, carried out among farmers during the COVID-19 crisis. According to the survey, while 29% of Israeli farmers communicate their products directly to consumers using social media platforms and designated websites, about half of the respondents indicated that they encounter difficulties in executing their marketing communications [15].

5.1 Theoretical contributions and practical implications

This study contributes to U&G theory and social media marketing communication literature. It complements U&G theory by adding a layer to the context of social media. It suggests that consumers’ U&G derived from social media might
be affected by the macro context, such as social and economic crises in times of a pandemic. It also adds new perspectives to the research streams on the effectiveness of altruistic and egoistic message appeals. First it postulates that in a time of crisis, an altruistic message appeal is more effective in creating consumer engagement. Second, it offers a detailed research framework that further adds important insights into the motivating factors that comprise specific message appeals. It demonstrates the importance of looking into various motives rather than the narrow dichotomy of altruism vs egoism—both for theoretical and practical considerations. This viewpoint led to the conclusion that in a time of crisis, altruism toward farmers is the optimal form of messaging, rather than other altruistic or egoistic motives.

Based on this study’s findings, a series of recommendations is salient for practitioners in agri-food SMEs. Following exchange theory and the value creation process [10, 36], farmers can optimize their value offering to motivate consumers to participate in the exchange process [10, 11, 36]. To this end, it is important to choose the right message appeal, since consumer engagement with a brand’s social media may translate into purchase intention [53, 55]. Thus, the conclusion is straightforward: agri-food SMEs should focus on altruism toward the farmers, promoting human solidarity above self-interest [100]. That is, using local farmer narratives in the text of the post and adding their pictures as its main visual element to promote consumer engagement in times of crisis is the optimal social media messaging appeal. Additionally, egoistic messages based on enjoyment, convenience, price and well-being are preferable when combined with altruistic messages rather than as standalones, which diminishes their effectiveness.

5.2 Limitations and future directions

The current research has some limitations that should be noted. First, in this study we used quantitative content analysis. The insights provided in this unique and exploratory study should be further addressed empirically in future research in different contexts [101]. Second, this research focused on a single culture—that of Israel. Israeli culture is considered a combination of individualism and collectivism [102]. Further intercultural studies may shed light on the impact of culture on consumer interactions with SME social media posts [40] during a crisis. Third, this study focused on the agri-food industry and research indicates that consumer engagement with social media posts varies between industries [51]. Thus, research in different industries will enhance generalization of the results. Forth, the current research explored and explained communication during a crisis. Farmers and consumers are expected to change their perceptions and behaviors in the post-crisis period, returning to a ‘normal’ life routine. Thus, the emerging salient questions are: will the farmer-consumer ecosystem be reshaped again and if so in which direction? A follow-up study would help to determine if farmer messages change and if consumer behavior engagement continues to correlate with altruistic message appeals in post-crisis times. Lastly, a sentiment analysis of consumer comments on social media posts, using a data mining technique, may enrich the findings with additional insights regarding their positive and negative reactions to the content [85, 103, 104].
Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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