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What Makes a Good Agricultural Story? Validation of a Scale for Marketing and Communication

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Abstract

Agricultural communication covers all kinds of human communications involving agriculture, food, natural resources and rural interests. Such communications exchange and deliver the information of the agricultural and natural resource industries to the right receivers through effective media. Storytelling in marketing is also a managerial application; it is a marketing strategy that includes the agricultural industry. While an increasing number of agricultural businesses are promoting the application of agricultural stories in marketing and facilitating increases in the consumption of agricultural products, few researchers have explicitly developed valid tools for measuring the constructs of agricultural stories. This study continued previous research on effective model of storytelling in agricultural marketing, with the aim of exploring the constructs of a good agricultural story and developing the "Agricultural Story Scale" to measure them. Thirteen items measuring three factors—authenticity, narrative, and protagonist's distinctiveness—were confirmed to have satisfactory structural model fit. The findings of the study and recommendations that contribute to both theoretical and practical implications are reported.

Keywords: Agricultural Story; Agricultural Communication; Measurement; Storytelling; Storytelling in Marketing

1. Introduction

Stories play an important role in life; they have always been a powerful communication tool for mankind (Wylie, 1998) and can be used for sharing experiences between people (Denning, 2005). Bruner (2009) noted that people organize and understand the relationships in a story through cognitive processing to grasp the meaning. Therefore, Shankar, Elliott, and Goulding (2001) thought that stories help us in our cognitions, memory and conceptions of self. Apart from the writer, stories also have great impact on recipients by sparking their imaginations that continuously affect and change viewpoints, cognitions, and judgments in real life (Loebbert, 2003).

Over the past decade, due to changes in social and population structures, advances in communication technologies, and the development of more initiative campaigns for animal treatment and the environment, the public has experienced significant changes in cognition and opinions regarding agriculture (Irani & Doerfert, 2013). Telg and Irani (2011) found that engagement

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in agriculture in the USA has dropped sharply, and the severe population migrating into cities is causing a decline in the public's knowledge and understanding of agriculture, especially in new generations. Goodwin, Chiarelli, and Irani (2011) presented a possible green divide between farmers and the public, concluding that awareness and understanding between producers and consumers needed improvement by agricultural communication. Effective agricultural communication requires an effective communication strategy (Telg & Irani, 2011) with important emphasis on message effectiveness, because message perception varies by consumer (Stevenson, 1997). From the agricultural initiative campaign launched by Advocates for Agriculture (2016), it is clear that stories can be used to convey effective message content in agricultural communication. By sharing their stories, farmers can become the spokespersons for agriculture to develop and create mutual understanding between producers and consumers (Advocates for Agriculture, 2016).

Regarding the effects of utilizing an agricultural communication strategy to change public actions and attitudes, increasing numbers of agriculture-related units are promoting the application of agricultural stories in marketing so as to facilitate an increase in the consumption of agricultural products. For example, the Council of Agriculture (COA) Taiwan held a workshop on "Storytelling in Marketing," including a training course, practical demonstration and competition, to help young farmers and students to learn about the concepts and operational approaches of storytelling in marketing in the hope of helping young farmers improve their product marketing capability (Yueh, 2015). Moreover, distributors also add value to products with marketing agricultural stories. For example, the Pxmart chain supermarket held lectures help Taiwanese farmers to create special stories, and it utilizes their network advantages to make agricultural products better known. Young farmers also share their farming experiences and knowledge in their blogs through funny pictures and videos along with humorous writing, establishing an impressive connection with online friends and selling rice (Dai & Huang, 2015). After the onslaught of Typhoon Morakot in 2009, the Pingtung Dawu Tribe worked to recultivate millet and cooperated with the Forestry Research Office of the NPUST Community to build the "Millet Story House" to tell the story of the reconstruction of the tribe and Rukai millet culture (Lin, 2015). Overseas examples include the United Dairymen of Idaho (UDI) in the USA, who utilized storytelling to shoot a film about the daily life of dairy farmers and their families. This film helped viewers understand more about dairy production by showing scenes and conversations with dairy farmers. This effort aimed to illustrate the commitment to quality assurance by dairy farmers so as to encourage consumers both at home and abroad to buy milk from Idaho (United Dairymen of Idaho, 2016). In a McDonald's advertisement, an apple farmer, Mr. Mike Dietrich from Michigan, narrates his family's story about growing apples (McDonald's Corporation, 2013).

In the narrative structure of the communication process, Chatman (1980) thought that any narrative work has two components: discourse and story. The discourse is the expression or narrative approach of such works, which refers to the

meaning, expression of what the story was told. And the story is the contents, events, characters and settings of the works. The connotation of the story will influence the effect of communication. Therefore, it is very important for marketers and producers to know what constructs should be contained in a good agricultural story and how to measure such abstract connotations. Even so, few relevant studies have focused on "Constructs contained in a good story," and those investigating "measurement of constructs in a good agricultural story" are even fewer. Therefore, this study focused on the constructs that a good agricultural story should contain, further developed a "Measurement Tool of Constructs in a Good Agricultural Story," explored its factors, and verified the reliability and validity. The measurement tool can be applied for analysis of storytelling in marketing studies and provided to industry professionals as a reference.

2. Literature Review

2.1 Communication, narratives, and agricultural marketing

The definition of communication proposed by Fotheringham (1966) is: "A process involving the selection, production, and transmission of signals in a way that helps a receiver perceive a meaning similar to that intended by the communicator," and Berlo (1960) proposed that the structural elements of communication include four major elements: source, message, channel and receiver. But in 1948, Lasswell (1948), an American political scientist, defined communication as: "A convenient way to describe an act of communication is to answer the following questions: Who, Says What, In Which Channel, To Whom, With What Effect?" and this model is still adopted by many scholars today.

All narrative works include the combination of "how to tell" and "what to tell" (Chatman, 1980), which correspond to the medium and the message in the five elements of the communication process proposed by Lasswell (1948). In addition to messages, stories also contain various forms of medium and expression. McLuhan (1964) proposed that "the medium is the message," meaning that when people understand a message, they will be affected by the form of its communication. Since the form of the communication medium has been implanted in the message, the message has a symbiotic relationship with its communication medium. Ryan (2004) also thought that the medium is not simply the channel for message transmission, for different medium characteristics will limit the expression style and presentation experience of narratives. Herman (2003) proposed that any story can change its content according to different medium forms, but it can also be independent of any medium; that is, the pure story content. By integrating such literature, we can tell that the message and the medium share a close relationship and jointly constitute the "narrative." Therefore, the narrative not only represents a message in story form but is also the communication form in facilitating human communications.

The origin of the agricultural communication process can be traced back to the early development of agricultural society (Telg & Irani, 2011), when it provided isolated rural viewers with information on farming and home management topics. (Tucker, Whaley, & Cano, 2003). Sprecker

and Rudd (1997) thought that as far as the nature of agricultural communication is concerned, it is a subject covering basic concepts of agriculture and communication. Zumalt (2007) proposed that agricultural communication covers all kinds of human communications involving agriculture, food, natural resources, and rural interests. In "Agricultural communications in action: A hands-on approach," Telg and Irani (2011) proposed that agricultural communication occurs to exchange and deliver the information of agricultural and natural resource industries to the right receivers through effective media such as newspapers, magazines, television, broadcasts, and websites. Countries have developed from the agricultural era into the industrial era, and then into the information economy era of today, where receivers and their demands, and channels that meet those demands, have evolved. Therefore, agricultural communication emphasizes the development of fields such as strategic communications, marketing and branding, public relations and online and network groups. According to the content of current academic courses on agricultural communication, important topics are strategic communications, new media, public relations, marketing, writing, editing, public media and so on; it is clear that the development of agricultural communication is quite different nowadays (Irani & Doerfert, 2013). Such development is important to modern society because agriculture plays an important role in cultures worldwide, but we are overwhelmed by the real-time and widespread information in business globalization. Very few people know how food is produced; therefore, the establishment of an organized system to share agricultural information (especially on food safety) might be an important and vital topic of discussion (Zumalt, 2007).

Agricultural marketing is also a kind of agricultural communication model because agricultural products themselves are the products of higher homogeneity. Enterprises need to tell consumers a fascinating story to connect with consumers at an emotional level so as to achieve the target of brand communication (Herskovitz & Crystal, 2010). In addition, research by Chen, Hsu, and Yueh (2017) also emphasized the importance of graphical messaging. The research analysis concluded that the use of text or images to emphasize the quality of agricultural products is an important feature of agricultural advertising. Also, due to the high product homogeneity of special agricultural products, consumers are not simply satisfied by product functionality; hence, most consumers need to feel some form of emotional satisfaction. An example is the study of Barrena and Sánchez (2009) on wine, also classical agricultural products, in which they found that in a market of high product homogeneity, it is high saturation, competition, and emotion that affect the consumers' purchasing decisions. Therefore, in the marketing strategy of agricultural products, if it is possible to connect emotion to the products, it should be possible to establish a long-term consumption relationship with customers based on the values transmitted through marketing. Since agriculture is different from other industries, it has different materials that can be used as story content. For example, in most circumstances, agricultural production involves both humans and land, just as industry utilizes natural resources and human labor for production. Telling stories may be able to help agricultural marketing to

exert its communication effects. In the marketing strategy of agricultural products, if it is possible to connect emotion to products, it should be possible to establish a long-term consumption relationship with customers based on the values transmitted through marketing.

2.2 Storytelling and communication effect

In application, the effects of a story after its communication generally need to be reviewed, and the communication effect involves the multiplicity and complexity of many phenomena. Generally, the most extensive differentiation approach includes three effects: cognitive effect, related to cognition and opinion; emotional effect, related to attitudes and feelings; and behavioral effect, related to actual behaviors. For example, the hierarchy-of-effects of advertisement proposed by Lavidge and Steiner (1961) includes three such hierarchies. Studies in the past have pointed out that stories influence the aspects of cognition, emotion and behavior. For the first, stories are able to attract the consumer's attention to the stories' messages by portraying the images in the hearts of consumers, and the conflicts in the stories can increase reader interest and involvement (Kirszner & Mandell, 2001). Herman (2003) thought that stories are the best tool for people to think, master and create the meaning behind messages. Loebbert (2003) also proposed that a good story can allow listeners to understand the key points and central message of the story, as well as attracting listeners' attention. In the course of information processing, integrating the brand or product information into the consumer's story can lead to the generation of satisfaction and acceptance of products by consumers on a subconscious level (Hiltunen, 2002; Holt, 2003).

Second, in terms of the emotional effect, stories can trigger a listener's emotion, so the fermentation of stories in the listeners' minds can also generate meaning and leave indelible impressions (Simmons, 2001). With sufficient information, stories can cause changes in people's emotions, as well as cognitive interaction. The production and repetition of a good story can provide a charming emotional experience and satisfy one or several prototype results (Woodside, Sood, & Miller, 2008), proving that a good story can affect the emotional aspect, while also strengthening people's understanding. In addition, Maxwell and Dickman (2007) also thought that stories can connect memory and emotion to the market, just as touching stories (Zemke, 1990) can cause changes in emotion. In marketing advertisements, the occurrence and changes of emotion and cognition are obvious and further affect the intention to purchase, finally facilitating purchasing behavior. Thus, stories will also have a behavioral effect.

What constructs should a story have in order to promote the cognition effect? As Woodside, Sood, and Miller (2008) proposed, storytelling in marketing is playing the story of an opera in the form of a product or brand story so that customers can become involved and accept the product and brand from it, through which the marketing purpose will be achieved. Commodity messages with stories are more impressive than simple advertisements, thus strengthening the function generally and resulting in a more remarkable persuasion effect (Adaval & Wyer, 1998; Huang, 2010). Escalas, Moore, and Britton (2004)

developed a set of narrative structure topics, mainly for measuring the strength of advertising stories, including items such as character, character development, causality, chronology and specific event. A story presents its meaning from the composition structure of a story, and its meaning can be studied from how the degree of a story is measured, as stated in previous literature. A vivid and easily recognizable character can make the audience understand the message of a story easily and promote the story line (Fog, Budtz, Munch, & Blanchette, 2010). Since the stories have "real pleasure," the brand or product information can be integrated so as to be accepted by the potential consumers (Hiltunen, 2002; Holt, 2003). Fog, Budtz, Munch, and Blanchette (2010) thought that having better story conflict can break the balance of expectation of the audience, making the messages delivered by the story more impressive and easier to remember for the audience. Escalas (1998) thought that the most important elements in a narrative structure are chronology and causality; the characters, actions, scenes and so on in the story will appear one by one as time progresses, eliciting mutual causality.

Characters are an important element in a story (Fog et al., 2010; Propp, 1968), and the actions of characters can develop the story line to represent the special meaning, which is the focus that the audience cares about. In brand building, a character-oriented story narrative is also very important because the brand character establishes a long-term emotional relationship with the viewers. It can be identified and memorized immediately, and other elements of the story will also be unfolded from the brand character and personality (Herskovitz & Crystal, 2010). Of the many possible characters, the leading actor is the core of the story and has the most important role. This phenomenon can be seen from the theory of fairy tales (Propp, 1968), where characters apart from the leading actor, such as enemies, allies, interest providers and beneficiaries, are connected to the leading actor to some extent and interact with him or her in the course of achieving the target, all while acting as the subplot of the leading actor. Fog et al. (2010) proposed that the "conflict barometer" used for measuring the degree of conflict in the story also treats the leading actor as the subject, measuring the opportunity of the subject's capability to solve problems when encountering problems, so as to assess the degree of conflict. Therefore, the leading actor is not only the subject of the story who assists in developing the plot but also delivers the story messages and conflicts.

In the story, the persons telling the story should clearly convey who they are talking about, namely, the characters in the story. Therefore, from the beginning of a story, the persons telling the story undertake two responsibilities. Apart from character setting, they also need to pay attention to the identifiability of characters (van Laer, de Ruyter, Visconti, & Wetzels, 2014). Identifiability is a very important aspect of characters because via identifiability, story receivers are able to learn about and sense the world in the same way as the characters and understand the things experienced by them (Escalas & Stern, 2003). This is especially true for the leading actor, since after the viewers have focused their attention on the leading actor and reached a certain level of identification and acknowledgment of that actor, they will carry out higher cognitive processing, such as generating acceptance. Acceptance is

mainly built on individual cognition on whether they themselves have any specific peculiarities in common with other persons or other groups (Hall & du Gay, 1996). Preliminary acceptance is to recognize the peculiarity of others; hence, a vivid and easily recognizable character can strengthen such cognition. Acceptance can cause viewers to resonate with the experience of characters and combine themselves with the characters as one (Sestir & Green, 2010), and acceptance can also be conceptualized into a similar (Cohen, 2001) or familiar feeling (Hoffner & Cantor, 1991). The more characters are accepted by the audience, the more likely it is that they will copy the actions of the characters (Cohen, 2001). In the study of novels, movies or dramas, the analysis of the leading actor's peculiarities and psychological course in such different story presentations is a major focus (e.g., Ding, 2010). Therefore, we can tell that the vividness and easy identifiability of the leading actor enhance the readability and depth of the story.

Second, in terms of emotion effect, Guber (2007) proposed that the person telling the story must sincerely review and meet the audience's emotional demands. Luarn, Chiu, and Chao (2013) once defined authenticity as the story content conforming both to real life and to the confidence level of readers; only when consumers "choose to believe" that the story is authentic instead of fictitious will they understand the story content. The degree of a story's attraction to consumers has nothing to do with the authenticity of the story itself, for it depends on whether the consumers believe that the story is true or not (Grayson & Martinec, 2004; Mossberg, 2008). Lewis and Bridger (2011) also claimed that the authenticity of a product or service only lies in the eyes of the viewer. As for modern marketing, the increasingly inauthenticity and unreliability in public marketing makes authenticity all the more important (Beverland, Lindgreen, & Vink, 2008; Hollenbeck, Peters, & Zinkhan, 2008), since only through a true story can we impress consumers and further retell and share the story (Luarn et al., 2013). MacCannell (1976) thought that authenticity can connect consumers to past experiences. From the perspective of advertisers and brands, authenticity is very important to branding (Aaker, 1996; Keller, 1993). The reason is that an authentic story can enhance consumers' attitudes towards the brand and more easily result in consumers feeling the sincerity of advertisers such that the consumers gain greater acceptance of the brand value and commodity information and accept how advertisers will meet the consumers' demand, thereby increasing the consumers' intention to purchase (Chiu, Hsieh, & Kuo, 2012). The existence of authenticity also eliminates the gap between the original story and drama, making consumers believe that the content of a story really happened and building trust in the brand (Deighton, Romer, & McQueen, 1989).

Edell and Burke (1987) thought that emotion will affect the cognition system, consumers will generate different emotions according to the circumstances at the time, and thus their subsequent thoughts and actions to be taken will be affected. Hence, the cognition and emotion effects might directly or indirectly result in the generation of behavioral effects. Pixar animation has accomplished great business success. Story artist Emma Coats lists a series of basic principles of Pixar stories, covering several major principles, including unexpected events, vivid

and interesting characters, and implications of the story's core (Benjamin, 2015). Stories with emotionally packed facts will drive us to act to change the world in which we are living (Luarn et al., 2013). Storytelling is an effective strategy for brand building, and the essence of a brand is commitment (Duncan, 2002); hence, stories must be able to present the commitment and practices between the marketers and consumers so as to influence consumers to take actions.

3. Methods

This study explored the constructs of, and to develop a scale for measuring, good agricultural stories, as well as to verify the reliability, factor structure and validity of this scale. This study first collated descriptions and characteristics of "good" agricultural stories from relevant literature, and then integrated similar concepts into indicators and then generated items of the scale. Second, an expert validation procedure was adopted in order to ensure that the items corresponded to the construct of agricultural stories. Three experts with practical experience and knowledge of agricultural marketing and communication were asked to examine it for confirmation of content validity. Finally, this study tested the developed scale with a series of a rigorous validation procedure. Progressively, an item analysis was employed to verify the item discrimination degree and internal consistency of the 18 items. An exploratory factor analysis (EFA) was used to assess the factorability of the data and to ensure the reliability and validity of this agricultural story scale. Five items shown considerable cross-loadings were removed. For this 13-item scale, a three-factor solution was extracted. Further, a confirmatory factor analysis (CFA) was employed to examine the discriminant validity of factors and confirm the factor structure derived from EFA was appropriate.

3.1 Subjects

A convenient sampling method was adopted by this study. Participants interested in agricultural marketing, were recruited from the "Storytelling in Agricultural Marketing Workshop" held by the Council of Agriculture, Taiwan. After being fully informed of the purpose of the study, a total of 380 participants voluntarily completed the questionnaire. There were 161 man and 219 women. The male to female ratio is approximately 2:3. The average age of subjects is 26 years old (SD = 8.77).

3.2 Measurement

The researchers developed the "Agricultural Story Scale" containing 18 items under three categories: "authenticity," "narrative," and "protagonist's distinctiveness." Participants needed to respond to those items on a 6-point Likert-type scale of 1 (*strongly disagree*) to 6 (*strongly agree*).

3.3 Data analysis

Data were analyzed in SPSS 15.0 and LISREL 8.70 software. SPSS is initially used for exploratory factor analysis and other descriptive statistical analysis. LISREL was then used to perform the confirmatory factor analysis (CFA) of the structural equation model (SEM) to verify the suitability of the scale.

4. Results and Discussion

4.1 Item analysis

Results of item analysis were listed in Appendix A. Mean scores of all items ranged from 2.87 to 6.29 with standard deviation of ± 1.5. The absolute values of skewness are all less than 3, and the absolute values of kurtosis are all less than 10, indicating that all items are appropriate and that responses met the normal distribution assumption (Kline, 1998). The independent sample was employed to detect whether there is a difference between the high (top 27%, higher than 90) and low (bottom 27%, lower than 75) score groups. Results showed that the *t*-value of all items reached the significant level (two-tailed α = .05) and confirmed good item discriminability (Torkzadeh, Koufteros, & Pflughoeft, 2003). Correlation analysis was also conducted to test individual items and the total score. Results showed that the Pearson correlation coefficients are all significant and greater than 0.50. As a result, all 18 items are retained for further exploratory factor analysis.

4.2 Exploratory factor analysis

Prior to exploratory factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity test were used to determine whether the data were suitable for factor analysis. A larger KMO indicated a greater number of common factors between the variables and greater suitability for factor analysis to be used. The KMO value of the scale used in this study is 0.885, the coefficient of sampling appropriateness is greater than 0.80, and the sphericity test result is found to be significant and adequate (Kaiser, 1974), indicating that the sampling of this data is suitable for factor analysis.

The principal axis factoring method of the factor analysis method was used to perform factor extraction and factor shift in conjunction with the Promax rotation method. Results confirmed that three factors have an appropriate factor structure, and the KMO and Bartlett's sphericity tests indicated significant effects. However, six items: "Good agricultural stories should be fresh," "Good agricultural stories should have very distinctive protagonists and easily recognizable agricultural products," "Good agricultural stories should be able to subvert the audience's expectations," "Good agricultural stories should not be self-contradictory," "Good agricultural stories should be implicit," and "Good agricultural stories must be trusted by consumers" were loaded under two factors. Considering that "good agricultural stories must be trusted by consumers," as shown in the literature review, consumer trust has very important implications for authenticity (Deighton et al., 1989; Grayson & Martinec, 2004; Luarn et al., 2013; Mossberg, 2008). Therefore, this item is retained, while the remaining five items under the two factors are deleted from the scale. For the three factors, the loading of the remaining questions of "authenticity" ranged from 0.55 to 0.70, those of "narrative" ranged from 0.50 to 0.84, and those of "protagonist's distinctiveness" ranged from 0.57 to 0.84.

4.3 Confirmatory factor analysis

This study further conducted confirmatory factor analysis with the Sattorn–Bentler scaled chi-square (DiStefano, 2002) to test the factorial validity. This study refers to the evaluation standards of CFA proposed by Bagozzi and Yi (1988). Two standard tests were conducted

for basic fit, including test error variance and standardized solutions (as shown in Table 1). Results show that no negative error variation existed. Also, correlation coefficients between the two parameters are not greater than 1 or less than -1, indicating that the scale meet the preliminary fit criteria.

The results of the overall model fit test are shown in Table 2. The chi-squared value is found to be 215.53 (p = .00), and CFI, NFI, NNFI, and SRMR all meet the criteria proposed by previous researches (Table 2). Although the model fit is not high, it is still in line with the suggested values proposed by Hair, Black, Babin, and Anderson (2010). McDonald and Ho (2002) also believed that 0.08 is an acceptable model fit threshold. Overall, the overall fit between this research data and the theoretical model showed an acceptable fit result.

Further examination of the discriminant validity of the factors reveal that the paired correlations of confidence interval values among all variables ranged from 0.82 to 0.34, indicating the three factors have discriminant validity. With respect to average variance extracted (AVE), Fornell and Larcker (1981) and Bagozzi and

Table 1. Standardized Solutions Summary of the Agricultural Story Scale on CFA

Items	Narrative	Protagonist distinctiveness	Authenticity
Good agricultural stories must be touching.	0.72		
Good agricultural stories should have very vivid and easily identifiable characters.	0.72		
Good agricultural stories should be disseminated easily.	0.70		
Good agricultural stories should deliver a certain value proposition.	0.70		
Good agricultural stories should focus on clear and singular messages.	0.64		
The plot of good agricultural stories must maintain the interest of the audience.	0.60		
Good agricultural stories appeal not to rationality but to feelings.	0.58		
The leading actor of good agricultural stories should be a spokesperson with obvious vividness and easy identifiability.		0.83	
The leading actor of good agricultural stories should be a consumer with obvious vividness and easy identifiability.		0.80	
The leading actor of good agricultural stories should be a farmer with obvious vividness and easy identifiability.		0.67	
Good agricultural stories must contain commitment to agricultural connotations.			0.84
Good agricultural stories must be trusted by consumers.			0.80
Good agricultural stories must be authentic.			0.65

Table 2. Model Fit Criteria Summary of the Agricultural Story Scale

	chi-squared	RMSEA	CFI	NFI	NNFI	SRMR
Results	215.53	0.08	0.96	0.95	0.96	0.06
Recommended criteria	The smaller the better	≤ 0.08	≥ 0.90	≥ 0.95	≥ 0.90	≤ 0.08
Authors suggested by		Hair et al. (2010)	Hair et al. (2010)	Hu and Bentler (1999)	Bentler and Bonett (1980)	Hu and Bentler (1999)

Yi (1988) both suggested that it is best for the potential variable AVE to exceed 0.50 because it indicates the contribution of latent variables affected by observed variables is larger than the error contribution amount (50%). The AVE values of the study were 0.57, 0.45, and 0.59 (as shown in Table 3). One of them does not pass the criteria. However, Fornell and Larcker also believed that the threshold of AVE being greater than 0.50 is very strict. Besides, if the composite reliability is higher than 0.6, the convergent validity of the construct is still adequate. The composite reliability (CR) is the indicator of consistency of the constructs. As shown in Table 3, the CR of the three latent variables of "authenticity" (0.80), "Narrative" (0.85), and "Protagonist distinctiveness" (0.81) are all greater than 0.60, confirming convergent validity (Bagozzi and Yi 1988).

5. Conclusion

As a related study of this study, Yueh and Zheng (2019) proposed a valid agricultural story marketing model, which provided a comprehensive understanding of how narrative processing, affect, and brand attitude work together to influence consumers' purchase intention of agricultural products. However, the foregoing research itself did not discuss the connotation of the composition of agricultural stories. Therefore, the current study aimed to understand the essence of the story and attempts to develop the "Agricultural Story Scale" to gauge what is a good story. As a result, this scale consisting of 13 items with 3 factors—authenticity, narrative, and protagonist's distinctiveness—are confirmed to have satisfactory structural model fit. The findings of the study contributed theoretical and practical implications, as discussed below.

5.1 Implications for theory

This study developed the Agricultural Story Scale with good reliability and validity. The results of this study confirms the significance of constructs in agricultural stories. The narrative refers to the atmosphere displayed by the complete structure of the match-up of story elements, which are capable of attracting readers to continue reading the stories, arouse the audience's emotions, and convey values and arguments. Authenticity must contain facts and commitment that can be trusted by consumers and make the audience perceive the improvement of quality (Luarn et al., 2013). The purpose of a protagonist's

Table 3. Composite Reliability and Average Variance Extracted of the Agricultural Story Scale

Dimensions/ Facets	Items	CR	AVE
Authenticity	Good agricultural stories must be authentic.	0.80	0.57
	Good agricultural stories must contain commitment on agricultural connotations.		
	Good agricultural stories must be trusted by consumers.		
Narrative	Good agricultural stories must be touching.	0.85	0.45
	Good agricultural stories appeal not to rationality but to feelings.		
	Good agricultural stories should be disseminated easily.		
	Good agricultural stories should deliver a certain value proposition.		
	Good agricultural stories should focus on clear and singular messages.		
	The leading actor of good agricultural stories should represent the agricultural product with obvious vividness and easy identifiability.		
	The plot of good agricultural stories must maintain the interest of the audience.		
Protagonist distinctiveness	The leading actor of good agricultural stories should be a farmer with obvious vividness and easy identifiability.	0.81	0.59
	The leading actor of good agricultural stories should be a spokesperson with obvious vividness and easy identifiability.		
	The leading actor of good agricultural stories should be a consumer with obvious vividness and easy identifiability.		

distinctiveness is to enhance the readability and depth of the stories. In agricultural stories, the protagonists can be farmers, spokespersons and consumers. The constructs of "authenticity," "narrative," and "protagonist's distinctiveness" in agricultural stories must be developed in a balanced manner. As Luarn et al. (2013) indicated, a widely circulated story cannot rely on enhancing the authenticity of the story or its structure alone; what is needed is a combination of highest authenticity and psychological and structural means such that the audience will have strong willingness to share the stories.

In agricultural stories, the protagonist's distinctiveness, authenticity, and narrative all have their own functional expressions and are indispensable. In addition, this study also transforms the constructs of agricultural stories into measurable variables to serve as the measurement tools for future researchers to explore the perceptions of audiences in the constructs of agricultural stories. In practice, it provides the authors of agricultural stories the important constructs and implications that they must consider to ensure the integrity of the stories.

5.2 Implications for practice

In terms of practical application, it is recommended that agricultural marketing and communications practitioners focus on how to enhance the three constructs of agricultural stories when writing the stories. For example, in terms of authenticity, story creators can use a farmer's background to construct the trueness of the story. In the narrative part, it is necessary to strengthen the depth of the structure and constructs of the stories to attract viewers to continue reading them and evoke their emotions. For example, one principle proposed by Artist Emma Coats in "The Pixar Story" is to "follow the original creation." This principle should be considered while constructing an agricultural story. With regard to the protagonist's distinctiveness, one should think about how to highlight the protagonist's personality, or the particularity of his/her actions, to establish unique and recognizable features of the protagonist.

According to Yuen's (2019) research and analysis of TV shows produced with the theme of farmers' stories, it is found that when designing farmers' personal brand narratives, the elements of the stories presented by them are different, which can roughly distinguish between the two methods of rationality and sensitivity. Among them, the appeal of the rational way will be more easily connected to the "intention to buy" than the perceptual route. As Barrena and Sánchez (2009) contended that agricultural marketing must strength the linkage between affect and product; Yueh and Zheng (2019) further confirmed that affect plays a mediating role in agricultural marketing through storytelling. It is suggested that food business or agricultural farms managers use the power of story in their marketing strategy to improve consumers purchase intention.

Although the results of this research should contribute to relevant fields of research and practice, however, there were the limitations of the research context and sampling strategy. Besides, the current research could not exhaust all the criteria; there might be more dimensions beyond those proposed by this study that are also significant constituents for a good story. It is worth noting that that more future research is needed to continue testing the scale. In summary, it is recommended that researchers and practitioners should focus on the strategies that emphasize the three constructs of agricultural stories—authenticity, narrative, and protagonist's distinctiveness—to enhance their communication effects in agricultural propaganda and marketing.

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Appendix A
Items Analysis Summary of the Agricultural Story Scale

Items	Mean	Standard deviation	Skewness	Kurtosis	*t*-value	*r*
Good agricultural stories must be trusted by consumers.	5.26	0.88	-1.52	3.41	-11.78	.575**
Good agricultural stories should deliver a certain value proposition.	5.08	0.98	-0.93	0.22	-13.86	.653**
Good agricultural stories must contain commitment on agricultural connotations.	5.04	0.98	-1.10	1.58	-13.16	.584**
The plot of good agricultural stories must maintain the interest of the audience.	5.02	0.95	-0.91	0.74	-11.22	.578**
Good agricultural stories must be touching.	4.99	1.10	-1.03	0.64	-15.47	.688**
Good agricultural stories should be disseminated easily.	4.89	1.10	-1.00	0.86	-13.18	.662**
Good agricultural stories will not be self-contradictory.	4.89	1.14	-1.10	1.07	-10.93	.543**
Good agricultural stories must be authentic.	4.87	1.12	-0.89	0.37	-10.40	.504**
Good agricultural stories should have very vivid and easily identifiable characters.	4.68	1.09	-0.61	-0.10	-15.23	.726**
Good agricultural stories should focus on clear and singular messages.	4.62	1.10	-0.55	-0.13	-13.56	.662**
The leading actor of good agricultural stories should represent the agricultural product with obvious vividness and easy identifiability.	4.60	1.19	-0.72	0.14	-14.27	.681**
Good agricultural stories appeal not to rationality but to feelings.	4.35	1.17	-0.46	-0.15	-12.18	.592**
Good agricultural stories should be able to overturn the expectation of viewers.	4.26	1.22	-0.26	-0.56	-14.14	.658**
Good agricultural stories should be fresh.	4.25	1.20	-0.31	-0.30	-13.77	.652**
The leading actor of good agricultural stories should be a farmer with obvious vividness and easy identifiability.	4.20	1.27	-0.31	-0.54	-15.55	.685**
The leading actor of good agricultural stories should be a consumer with obvious vividness and easy identifiability.	3.88	1.32	-0.19	-0.56	-14.13	.638**
Good agricultural stories should be implicit.	3.76	1.31	-0.07	-0.53	-11.92	.558**
The leading actor of good agricultural stories should be a spokesperson with obvious vividness and easy identifiability.	3.76	1.37	-0.12	-0.58	-14.68	.648**

** $p < .01$.

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農業故事行銷傳播量表發展與驗證

What Makes a Good Agricultural Story? Validation of a Scale for Marketing and Communication

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摘　要

農業傳播涵蓋有關農產業、糧食、自然資源和農村利益等各種人類溝通機制，其中涉及透過有效的媒體交換農業和自然資源產業的資訊，並將其傳遞給正確的接收者。故事行銷是一種管理應用方法；也是農業行銷採用的策略之一。儘管越來越多的農企業正在推廣將農業故事應用在市場行銷中希望促進提升農產品消費，但少有研究開發有效的工具來衡量農業故事的結構。延續先前建立農業故事行銷模式之研究，本研究旨在探索良好農業故事的結構並發展一套「農業故事量表」之評量工具。研究結果證實此測量工具包含13個題項分屬三個因素：真實性，敘述性和主角的獨特性，且具有有效的結構模型效度；本研究進一步提出對理論與農業行銷場域實際應用之建議。

關鍵字：農業故事、農業傳播、量表、敘事、故事行銷

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