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RESEARCH ARTICLE

The decision-making process in viral marketing—A review and suggestions for further research

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Abstract

Viral marketing is used to widely distribute content. To achieve this goal, the basic decision-making process from content reception to interaction must be clarified. This paper examines the decision-making process of individuals in viral marketing using a new dynamic model. In addition, this work reviews the existing literature on viral marketing and structures to identify existing issues for further research. The decision-making process is basically divided into two stages. In the first decision stage, individuals decide whether content should be considered. When individuals agree to view the content, they decide in the second stage whether they want to interact with it. These two decisions are influenced by three factors: the framework conditions, content, and interaction aims. With the help of the decision model, this paper summarizes the most important findings from viral marketing research over the last 20 years. In addition, this work provides new opportunities for further research in the field of viral marketing.

KEYWORDS

consumer behavior, decision-making process, social media marketing, viral marketing, word of mouth

1 | INTRODUCTION

Viral marketing (VM) is currently regarded as the “holy grail” of digital marketing (Akpinar & Berger, 2017). Rayport (1996) was one of the first to address VM in his article, “The Virus of Marketing.” According to Cruz and Fill (2008), the term VM was introduced by Juvetson and Draper in 1997 and defined as “network-supported word of mouth.” Hotmail, which used e-mail as a distribution medium, was one of the pioneers in VM (Juvetson, 2000). Over the course of time, the possible communication channels of VM have expanded. Today, social networks rather than e-mail are used to distribute content. The most popular social networks are currently Facebook and YouTube, followed by the networks WeChat and QQ, which are widespread in Asia. In 2019, 2.94 billion people are expected to use social networks (eMarketer, 2019). With a population of about 7.7 billion people on

Earth, this means that more than one in three people on Earth actively uses social networks. These facts illustrate the enormous importance of VM today. For example, after analyzing the US in-depth, these facts become even more impressive. A study by the Pew Research Center (2018) found the following. In the US, 68% of the population use Facebook, and 73% use YouTube. Three-quarters of Facebook users use Facebook every day. As the current generation of users 18–29 years old grows up, social media is likely to continue to expand. Already, 88% of the population in this age segment use social networks. Facebook (80%) and YouTube (94%) continue to dominate the generation of users 18–24 years old. This age segment heavily uses other social networks such as Snapchat (78%), Instagram (71%), and Twitter (45%). Companies should use this impressive potential for their benefit. Laroche, Habibi, and Richard (2013) showed that customer and brand loyalties to a company are strengthened by social

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media. Companies should therefore actively create viral content on social networks to improve the company's perception among existing and new customers (Akpınar & Berger, 2017).

This paper sheds light on the decision-making process (DMP) of individuals in VM. In addition, this paper summarizes VM, which has been discussed in the literature for more than 20 years. By structuring the existing literature, a model was created that represents the DMP of individuals in VM. Furthermore, the topic should be given new impetus by breaking with outdated views (e.g., the term "sharing" is updated to "interaction") and providing a variety of approaches for further research.

After analyzing the known definitions of VM, this paper introduces the new dynamic model that replaces old static models and comprehensively visualizes the DMP in the digital world. With the help of this model, the three influencing factors (i.e., framework conditions, content, and interaction aims) are analyzed and summarized based on a literature review. In conclusion, research gaps are identified, and suggestions are provided for further research.

2 | DEFINITION OF VIRAL MARKETING

Over the last two decades, understanding of VM and its definitions has evolved. In particular, the metaphor for a biological virus or epidemic characterizes the definitions and forms the term VM in the literature (Dobele, Toleman, & Beverland, 2005; Gladwell, 2000; Kiss & Bichler, 2008; Welker, 2002). Helm (2000) defined VM as a "communication and distribution concept" based on the transmission of digital content between customers who send this content "in their social sphere" by e-mail. The recipient is also encouraged to disseminate this content. Wilson (2000) noted that VM describes "any strategy that encourages" users to disseminate content to create "the potential for exponential growth," such as a biological virus. Welker (2002) mentions advantages such as the extremely fast and cost-effective distribution of content. As a disadvantage, the uncontrollability of the method is stated (e.g., risks with a negative view of the contents). Porter and Golan (2006) use the term "viral advertising" and define it as "unpaid peer-to-peer communication of provocative content." This content is intended to motivate recipients to exchange information so that it can be spread over the Internet. Dobele et al. (2005) distinguish between a practical and marketing perspective. From a practical point of view, VM is a strategy "whereby people forward the message to other people on their e-mail lists or tie advertisements into or at the end of messages." From a marketing point of view, on the other hand, it is more a "process of encouraging" designed to encourage individuals "to pass along favorable or compelling marketing information they receive," which is either "by design or by accident." Kaplan and Haenlein (2011) claimed that two aspects play a role in the definition of VM. The first aspect is that the distribution rate of content must be greater than one (as in an epidemic, for example) to achieve exponential growth. The second aspect, the use of social media applications, favors the distribution of content via the existing

community element in social media. Phelps, Lewis, Mobilio, Perry, and Raman (2004) chose a concise definition that describes VM "as the process of encouraging honest communication among consumer networks." Cruz and Fill (2008) pointed to the risk of loss of control in VM and mentioned the strong relationship to classical WOM.

The classic WOM was the subject of discussion long before VM was established in the research (e.g., Bone, 1995; Brown & Reingen, 1987; Engel, Kegerreis, & Blackwell, 1969; Herr, Kardes, & Kim, 1991; Richins, 1983). According to Kaplan and Haenlein (2011), VM results from the classic WOM, coupled with exponential growth and the use of social media. The reference of VM to WOM is often described in the literature (Berger & Milkman, 2012; Dobele et al., 2005; Ferguson, 2008; Kaplan & Haenlein, 2011). This is one of the reasons why VM is also called "electronic word of mouth" (Chu & Kim, 2011; Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Kaplan & Haenlein, 2011). Besides electronic WOM, there are other terms that describe VM. These include "word of mouse" (Breazeale, 2009; Helm, 2000; Sun, Youn, Wu, & Kuntaraporn, 2006; Xia & Bechwati, 2008), "internet word of mouth" (Goldenberg, Libai, & Muller, 2001), "buzz marketing" (Carl, 2006; Mohr, 2007; Thomas, 2004) or "stealth marketing" (Kaikati & Kaikati, 2004).

Despite the scientific proximity, there are indications that differences exist between word-of-mouth (offline WOM) and viral marketing (online WOM). For example, WOM has a greater impact on purchase intent and a higher probability of retransmission than VM (Baker, Donthu, & Kumar, 2016). In general, people prefer to spread their opinions offline rather than online because of the social risks of online WOM (Eisingerich, Chun, Liu, Jia, & Bell, 2015). In contrast, the exponential growth and resulting high proliferation rate of VM (Woerndl, Papagiannidis, Bourlakis, & Li, 2008) are an advantage over the classic WOM (Baker et al., 2016). Another advantage is the improved measurability of the success of viral campaigns (Kaplan & Haenlein, 2011). Ferguson (2008) distinguished between the two in terms of cause and effect. In his opinion, VM is the cause that creates awareness and enthusiasm. In contrast, WOM is the effect, as it leads to trial and error.

What could be the reason for some of these differences? The first hint can be found in the work of Barasch and Berger (2014). People decide on what content to share based on the target group they appeal to. If one or a few people are addressed, the content is more useful or helpful. This changes when the content is directed to several people. In this case, people usually want to achieve good self-presentation by disseminating the content. Furthermore, there is a difference between written and oral communication, because written communication (VM) more often expresses interesting contents than oral communication (classic WOM). The asymmetry of the information is the reason for this is. Written statements give people more time to think about them. In direct communication (e.g., face-to-face) this time is less (Berger & Iyengar, 2013). According to the findings, VM has partly different mechanisms than classical WOM. The content that people spread on social networks is usually public and can be seen by many people. This is particularly critical in social networks, where the content is directly linked to people's profiles. In

this context, the sharing/interaction behavior of individuals changes as a result of self-presentation concerns, for example. In contrast, WOM usually takes place in a private or anonymous context, which changes the sharing behavior. For this reason, it is necessary to distinguish between these two areas.

Furthermore, the literature review shows that the definition of VM has changed over time. Of course, this is also because of technical development. For example, the number of possible transmission channels has increased to date. In the past, e-mail was generally cited as the best distribution method (Dobele et al., 2005; Phelps et al., 2004). Today, however, content is most often distributed via social media (Kaplan & Haenlein, 2011). After extensive research, it is necessary to create a new definition of VM that takes current developments into account. This definition is as follows:

Viral marketing is defined as marketing strategies that permit exponential distribution of content in network-based channels in the shortest time with comparatively little effort and additionally generate measurable added value through the content, which leads to a high cost-benefit effect.

3 | DECISION-MAKING PROCESS IN VIRAL MARKETING

Regarding the DMP of individuals, there is a multitude of literature (Edwards, 1954; Jacoby, 2002; Lavidge & Steiner, 1961; Thaler, 1980). One of the first models used to explain the DMP is the S-R (stimulus-response) model by Skinner (1935), which was later extended to the so-called S-O-R (stimulus-organism-response) model (Mehrabian & Russell, 1974). This model explains consumer behavior in the DMP (Kim & Lennon, 2013). The authors do not go further into the psychological models in decision theory but concentrate on the findings in VM. Furthermore, the authors do not further consider the algorithmic problems of VM, such as seeding or influence maximization. For a deeper insight, the following literature can be used (Chen, Wang, & Wang, 2010; Hinz, Skiera, Barrot, & Becker, 2011; Kempe, Kleinberg, & Tardos, 2003; Tang, Xiao, & Shi, 2014).

This work provides an overview of the DMP of individuals in VM. The course of the DMP, from conservation to distribution of content, has already been mentioned in the literature (Camarero & San José, 2011; De Bruyn & Lilien, 2008; Palka, Pousttchi, & Wiedemann, 2009; Pescher, Reichhart, & Spann, 2014). De Bruyn and Lilien (2008) introduced the first relevant model of the DMP in VM in 2008. In this work, the authors extended previous single-stage models to a multistage model with three decisions. In summary, it can be said that the first stage deals with receiving the content (decision: open or not). The second stage involves consideration of the content (decision: view or not). In the last stage, the final decision is made (decision: forwarding or not). Building on the work of De Bruyn and Lilien (2008), similar decision-making models were developed in the work of Pescher et al. (2014) and Camarero and San José (2011), which also consist of three decision-making stages. Based on quantitative analyses, these researchers examined various factors

influencing the decision levels. Table 1 shows the results of all three studies. A positive significant influence on the decision level is indicated by a "+". The "-" indicates a significant negative influence. In addition, the influencing factors from the literature were assigned to the influencing factors from the DMP model in the table.

Some special characteristics can be observed. The tie strength has a positive effect on all three decision levels (De Bruyn & Lilien, 2008; Camarero & San José, 2011). Pescher et al. (2014), however, measured the negative influence on the receiving and forwarding stage. This is as a result of the use of different content throughout the studies. While Pescher et al. (2014) used advertising messages as content, the other two studies focused on useful or viral content. It is also striking that the demographic similarity has a negative effect on all three levels. The reason for this is that individuals like to take advice from people outside their social environment and consider it valuable, such as advice from older persons who already have more experience in certain areas (Gilly, Graham, Wolfinbarger, & Yale, 1998). Another remarkable result is that highly networked individuals receive a higher amount of content but forward less overall. One possible explanation would be that such individuals have greater risk concerns about their social status and are therefore critical of the content they choose to forward.

In addition, two other qualitative models have received attention in the literature. The work of Phelps et al. (2004) is divided into two decision stages, and the work of Palka et al. (2009) is divided into three decision stages. In particular, Palka et al. (2009) pointed out many of the possible influencing factors on the individual stages. Social factors play an important role in this model and affect all three stages of the model. Other models (e.g., technology acceptance model) are also included in this work. However, factors that are no longer relevant today are also considered (e.g., costs for the forwarding of messages).

In terms of technological development, these five models are very limited today. The first point of criticism is that the terms "sharing" and "forwarding the message" are generally used in the existing models and the literature (Akpınar & Berger, 2017; Berger & Milkman, 2012; Camarero & San José, 2011). Reputation is not only enhanced by sharing content but also by simple expressions of interest such as likes (Facebook, YouTube, and others), comments or other forms. It is known that people do not necessarily share content that they have "liked" (Botha, 2014). Guerini, Staiano, and Albanese (2013), for example, distinguished between "plusoners," "replies," and "resharers" in Google+. Therefore, the terms should be adapted to current developments in social networking, and the broader term "interaction," which is also applied in practice (e.g., Facebook), should be used. It should be noted that sharing is still used in the literature review of this work, as existing research is limited to this form of interaction in most cases.

However, the strongest criticism is that the existing models in VM are static. Simple forms of content distribution (e.g., through e-mails) can be explained with these models. In the age of social media, however, these models are no longer sufficient. From receiving the content to interacting, the entire DMP is very dynamic.

TABLE 1 Overview of previously investigated impact factors in decision models

DMP in VM	Stage Reference Impact factor	Receiving/Awareness		Interest/opening		Forwarding	
		De Bruyn and Lilien (2008)	Pescher et al. (2014)	Camarero and San José (2011)	De Bruyn and Lilien (2008)	Pescher et al. (2014)	Camarero and San José (2011)
FC	Affinity (TS)	#			++		#
FC	Tie strength (TS)	+	-*	#		+	++
	Demographic similarity (TS)	-**		-*		#	-*
	Connectedness (TS)		+				-**
	Positive attitude (TC)						++
	Entertainment value (C)		+			+	+
C	Purposive value (C)		#			+	
	Negative attitude (TC)					-**	#
/	Usage intensity		#	#		#	++

Abbreviations: C, content; DMP, decision-making process; FC, framework conditions; IA, interactions aims; VM: viral marketing; TC, toward content ; TS, toward sender.

#No significant impact|blank fields: not investigated; +positive significant impact; -negative significant impact.

** $p < .01$.* $p < .01$.

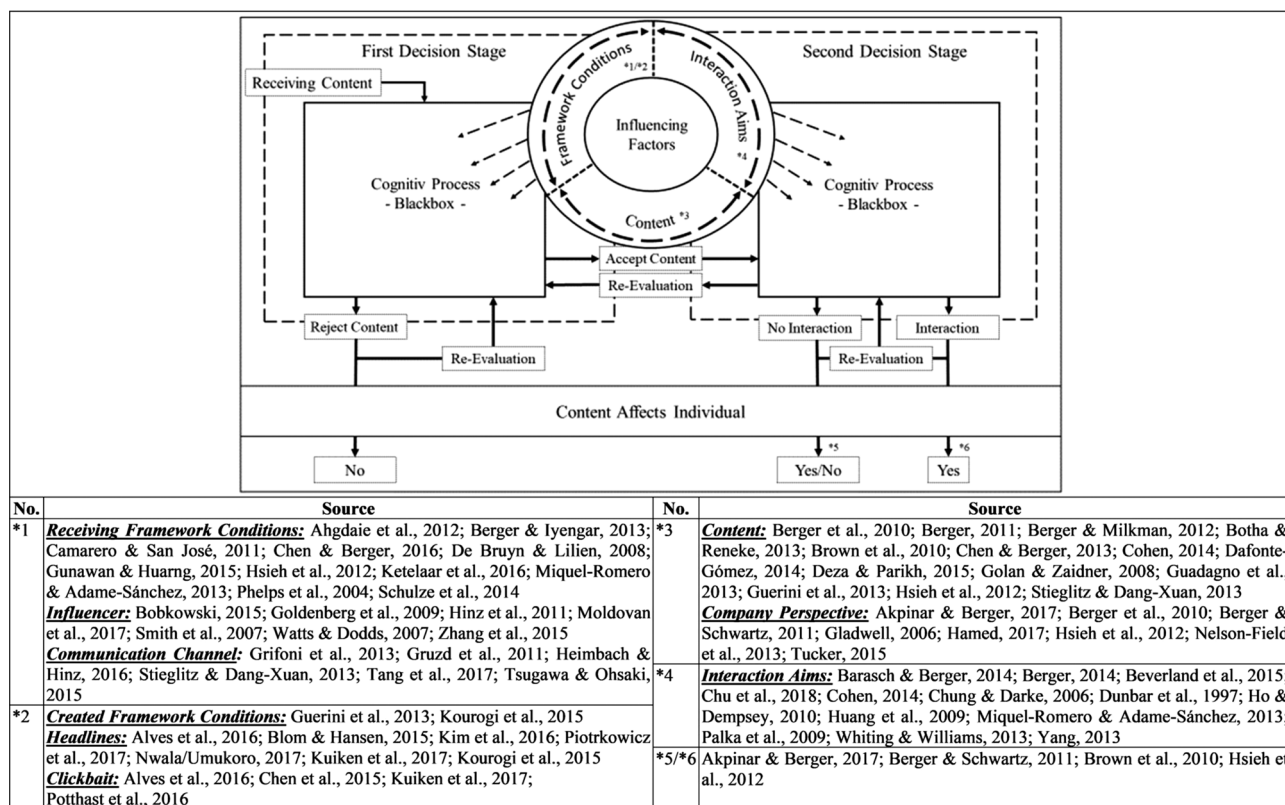


FIGURE 1 Decision-making process in viral marketing

For this reason, the classic DMP must, of course, be reconsidered and adapted. This assumption is illustrated in the model (Figure 1). There are various possible processes in the DMP of VM. The model shows these possibilities. The following examples illustrate the essential processes. It should be noted that not all possible processes are listed. This would go beyond the scope of this work.

We assume there are basically only two stages of decision-making. The first decision stage in the literature, to open the content or not, is obsolete in most social media applications. Content is usually displayed immediately, and the only decision is to “reject content” or “accept content” and view it. Therefore, the first two decision stages of the previous models in the literature are combined into one decision stage. This first decision stage serves as a filter for the unmanageable flood of content individuals are exposed to. Of course, algorithms such as those used by Facebook (DeVito, 2017) already restrict users’ content to their interests. Nevertheless, there is obviously much more content than a user can consume. A person can make this initial decision, sometimes in fractions of a second, based on many different types of information. The information can be generated by the content itself (e.g., an image or video captured directly) or by framework conditions. Why the differentiation between framework conditions and content is relevant becomes clear over the course of this work. Even interaction aims can influence this decision. An example would be that a person only looks at content because that person knows the content could be interesting for friends. The framework conditions themselves are categorized into receiving framework conditions (e.g., Who sent

this content?), created framework conditions (e.g., What is in the heading of the content?) or random framework conditions (e.g., Is this topic currently a trend?). It is important to note that this information is captured dynamically. This means there is no prescribed procedure. For example, the individual can jump directly into the content without seeing the corresponding heading. In addition, a dynamic change between content and framework conditions is possible (example of attention points: *Headline* → *Content* → *Sender* → *Content*). A cognitive process is used to decide whether to view the content when sufficient information has been collected from the user.

If the user decides to view the content (*accept content*), he enters the second decision stage. This process is also dynamic. For example, after viewing the beginning of a video, a person might think about sharing it. In the progress of the video, the person discards this thought again, as some of the factors in the video may put the person in a bad light with respect to his self-representation (influencing the interaction aim). After the information has been processed in the cognitive process, the final decision between *interaction* and *no interaction* is made. It is possible for the individual, after each decision, to reconsider and, if necessary, revise them. For example, a person could create a comment on content but delete it later. In addition, the model shows that individuals can be influenced by content. In VM, it is not only essential that content is distributed widely but also that this content has a positive effect on people (e.g., in their opinion of a presented product). A person’s attitude or opinion can be influenced by content, even if that person does not

interact with the content. In addition, it is assumed that content that is rejected in the first decision phase does not influence the individual. However, when people decide to interact with content, they are influenced by it. The two absolute hypotheses remain to be proven and could be investigated in further research.

The aim of this model is to clarify the dynamic DMP in VM and to identify questions for further research. Basically, it is necessary to understand the two existing cognitive processes that are influenced by the factors presented. In addition, it must be emphasized that each influencing factor of the model can impact each decision stage. Some factors are already well researched, but further research in areas such as framework conditions is necessary to better understand the mechanisms of VM. The model is shown in Figure 1 and contains an overview of the available literature on the individual influencing factors. In the following, this study presents the various influencing factors of the DMP. In addition, the existing literature on individual factors is reviewed.

4 | INFLUENCING FACTORS

4.1 | Framework conditions

The framework conditions are strong influencing factors on the DMP of individuals in VM. By means of framework conditions, people can quickly classify and evaluate content (e.g., classification of content according to headings). This is particularly important for the first decision to filter the enormous flood of content on the Internet. The relevance of this point can be illustrated by taking a closer look at the facts. To estimate how much content is available, statistics from Cisco (2019) on Internet usage should be used. In 2017, Internet traffic was 46,600 GB per second. By comparison, in 1992, Internet traffic was 100 GB per day. In 2022, 82% of Internet traffic is caused by video content. With an increasing number of contents, individuals are facing decision-making problems. Furthermore, framework conditions can provide people with additional information (e.g., how the content is perceived by other people) about the content. This, in turn, could have a greater impact on the second decision. These are two reasons why framework conditions should be differentiated from the actual content.

The framework conditions have so far been underestimated and have only been discussed to a limited extent in the literature. This work presents the existing findings and provides suggestions for further research in this area. In the following, the framework conditions are subdivided into the areas of receiving created and random framework conditions.

4.1.1 | Receiving framework conditions

The receiving framework conditions include all factors related to the receiving of content. It is of interest how and whether these factors influence the two decision stages of the DMP. One might ask, for example, what impact do content transmitters have on people's

decisions? Are there any differences between the channels used? What impact do so-called influencers have?

According to Gunawan and Huarng (2015), the attitude of a recipient to a product, in relation to the purchase intention, is influenced by the credibility of a source or a transmitter. In this context, credibility forms a positive attitude toward the purchase decision. Regarding content in general, it is likely that the transmitter's credibility may also have a positive impact on the sharing decision. Trust in the transmitter should also be given (Aghdaie, Sanayei, & Etebari, 2012). The probability of seeing content increases if the receiver is closely related to the transmitter (Camarero & San José, 2011; De Bruyn & Lilien, 2008). Likewise, the willingness to share this content increases in a close receiver-transmitter relationship (Ketelaar et al., 2016). If friends or acquaintances appear in the role of the transmitter, this has a positive influence on the evaluation of the content because of the subjective norm (Gunawan & Huarng, 2015). A good perceived value of the content also has a positive effect on the receiver's attitude toward the transmitter (Miquel-Romero & Adame-Sánchez, 2013). However, if it is known that the sending person is sending the content of poor quality, there is a high probability that this content will not be seen at all, regardless of the close relationship between the persons (Phelps et al., 2004). Furthermore, despite the transmitter's high credibility (e.g., if the transmitter is a close friend), the attitude and intention to share the content may decrease if the content is not convincing or is understood as a mere advertising message (Hsieh, Hsieh, & Tang, 2012). In the case of consumer products, the positive influence of the close relationship between receiver and transmitter is eliminated. In this case, messages from strangers are more effective in terms of the intention to share than messages from acquaintances. The reason for this could be the desire for unbiased information (Schulze, Schöler, & Skiera, 2014). The attitude toward the channel and the attitude toward the brand, which are integrated into the content, have a positive influence, and the attitude toward VM, in general, has an influence on the decision to share (Ketelaar et al., 2016). In addition, a distinction is made in the level of receiving whether the content is searched for independently and actively or whether the recipient receives the content passively from a transmitter. The criteria degree of interest, literary quality and reasoning power of content have less influence on the common decision for people who are actively looking for content. In contrast, these criteria have a stronger impact on people who receive content passively (Chen & Berger, 2016). This means that people themselves view researched content less critically than received content. This, in turn, influences the intention to share.

4.1.2 | Influencer

As described, people pay attention to the transmitter when they receive content. For this reason, opinion leaders must be addressed in the receiving framework conditions. Opinion leaders, also known as "influentials" (Watts & Dodds, 2007) or "hubs" (Hinz et al., 2011),

are people who can influence the opinions, behavior, attitudes or motivations of others (Moldovan, Muller, Richter, & Yom-Tov, 2017; Valente & Pumpuang, 2007). Nowadays, in social media marketing, the term influencer is used over the term opinion leader. Influencers are characterized by a high degree of information transmissions, such as highly networked people or celebrities. As a result of the growth in the social media sector, people who create their own content (e.g., via blogs or tweets) are considered influencers (Mohr, 2014). Because of the high level of activity in social networks (e.g., Twitter), influencers are building a strong fan base and thus expanding their reach (Hwang, 2015). However, it should be noted that Moldovan et al. (2017) found that the impact of influencers is strongest in smaller strong-tie groups and that it decreases with the increasing group size. The identification of influencers is an important factor for the efficient use of VM (Li & Du, 2011). Identification can promote a faster and stronger spread of a VM campaign (Goldenberg, Han, Lehmann, & Hong, 2009; Hinz et al., 2011), as highly networked individuals are more willing to distribute advertising content than less networked individuals (Smith, Coyle, Lightfoot, & Scott, 2007). It is also possible to get a sense of the current opinion about a product so that a company can react accordingly (Li & Du, 2011). The selection of influencers must be adapted to the respective marketing campaign or product (Cho, Hwang, & Lee, 2012), but this area should not be discussed further in this work. For a deeper insight, the following literature can be used (Valente & Pumpuang, 2007; Van der Merwe & van Heerden, 2009). The impact of influencers on the DMP of individuals in VM is not well known. Bobkowski (2015), however, determined the following. For example, if the individual receives a narrative article from an influencer, the perceived information benefit of this message for the individual and thus the distribution rate of the article increases. There are also opposing views that assume the broader population has the greatest influence on the viral spread of content and that influencers have a little and more local impact (Watts & Dodds, 2007; Zhang, Zhao, & Xu, 2016). In summary, it can be concluded that influencers can impact the individual. However, further research in this area is needed to make more detailed statements about influencers' effects on the virality and economic effectiveness of content.

4.1.3 | Communication channel

The communication channel is another factor that can be assigned to the receiving framework conditions. The channel should be adapted to the respective needs of the desired target group and offer easy applicability (Grifoni, D'Andrea, & Ferri, 2012). Examples of such channels include the following: Face-to-face, phone calls, blogs, forums, e-mail, newsletters, websites and, of course, social networks. Social networks are currently used intensively and offer an excellent opportunity to disseminate information quickly and widely. For this reason, these networks are particularly suitable for VM (Tang, Tang, & Yuan, 2018). However, the chosen communication channel should not only be tailored to the target group but also to the product or the content itself. Schulze et al. (2014) found, for example, that Facebook

is better suited for content with an entertaining character. Products or content that offer a pure utility should not be distributed through this and similar channels. Channels such as LinkedIn should be used for this type of content.

Emotions triggered by content have different effects on the virality of this content in the different channels. For example, awe-inspiring content works better on Facebook than on Twitter or Google+. In contrast, surprising content is more likely to work on Google+ (Heimbach & Hinz, 2016). According to Tsugawa and Ohsaki (2015), negative content on the social network Twitter is more viral than positive content. Moreover, these negative contents spread faster. Furthermore, the results of Tsugawa and Ohsaki (2015) could not be confirmed in the work of Stieglitz and Dang-Xuan (2013), who also examined content on Twitter. It was merely noted that emotions in written content promote virality and speed of distribution, but no significant difference was found between positive and negative emotions. Gruzd, Doiron, and Mai (2011), on the other hand, determined a stronger virality of positive Twitter content. It should be noted that the data from the previous three Twitter-related studies come from different subject areas or cultures. This is an indication that the influencing factors of viral content can vary according to a topic, cultural affiliation (Chung & Darke, 2006) or other factors. In general, the right communication channel should be adapted to the respective VM strategy on a case-by-case basis.

4.1.4 | Created framework conditions

Created framework conditions are factors that can be modified by the creator of the content. These factors provide additional information, summarize the content or try to attract people's attention. Suppose an entertainment video is to be published on Facebook. This would require a headline to briefly display the content of the video. It would also be important to choose the right startup image or video opening to attract people's attention.

An important aspect of created framework conditions is headlines. The headline of a newspaper article on social networks alone can tell us how popular the article is (Piotrkowicz, Dimitrova, Otterbacher, & Markert, 2017). In a study by the American Press Institute (2014), it has become clear that only four of ten Americans also read the content of the headlines. This also shows that headlines can display the content in a highly compressed form. As an advantage, individuals save an enormous amount of time and effort in searching for suitable content (Shrawankar & Wankhede, 2016). In the news industry, in particular, there has been a real battle for users' attention. In this industry, headlines are a well-known and proven means of attracting user clicks (Alves, Antunes, Agrici, Sousa, & Ramos, 2016; Kim, Mantrach, Jaimes, & Oh, 2016; Piotrkowicz et al., 2017). This raises the question, how should headlines be designed to attract the attention of individuals and thus draw them to the content? Normally, headlines are placed above the content to directly attract the attention of individuals (Nwala & Umukoro, 2017). There is already software that promises a higher click-through-rate of the content by the correct selection of words in headings. One example is

the headline click-based topic model from the work of Kim et al. (2016). The correct choice of words in a heading is not trivial, because the optimal choice of words is constantly changing and depends on topics (Kim et al., 2016). In general, headlines should be precise, striking and expressive (Nwala & Umukoro, 2017) and arouse individual curiosity (Kourogi, Fujishiro, Kimura, & Nishikawa, 2015). Curiosity can be generated, for example, using pronouns. These create an information gap in people that can only be uncovered by looking at the content (Blom & Hansen, 2015). An example would be, "This is an animal?" The reader would first have to look at the content to understand the context. In addition, a heading should contain a summary of the content (Kim et al., 2016). Kuiken, Schuth, Spitters, and Marx (2017) found that short words, signal words (e.g., how, why, when, what, who, this) and sentimental words should be used to increase the performance of headlines. No questions or quotes should be used against this. It should be noted that the subject area of the content has been excluded from this study. However, this could have a strong influence on the performance of a headline. It should also be noted that a headline must be adapted to the target group, as individuals have different views, interests, and language styles. Especially in connection with cultural differences, this point must be considered (Dor, 2003), because individuals in different cultures show a different sharing behavior (Chung & Darke, 2006). Kourogi et al. (2015) found that headings should contain as few characters as possible. In addition, keywords such as "breaking" and "new" attract attention. However, keywords must not be used incoherently but should be meaningful.

In the course of the headlines' main task to draw attention to the content, so-called "clickbait" is also mentioned in the literature (Alves et al., 2016; Chen, Conroy, & Rubin, 2015; Kuiken et al., 2017; Potthast, Köpsel, Benno, & Hagen, 2016). This method of attracting attention is regarded as a negative influence and partly as a form of spam (Potthast et al., 2016). Clickbait headlines often use vague, false or exaggerated statements and facts with the goal of generating as many clicks as possible for content (Chen et al., 2015). They are increasingly used in so-called "soft news" content that is rather entertaining or offers advantages for the individual (Blom & Hansen, 2015). Clickbait headlines suggest exciting and interesting content. As a rule, the content cannot meet the expectations that have arisen from overly exaggerated headlines. This is perceived by users as disturbing and unpleasant (Potthast et al., 2016). Clickbait is also problematic in view of the currently controversial topic of fake news. However, it should be noted that some features of clickbait have a positive impact on headline performance without intentionally misleading users (Kuiken et al., 2017). For example, generated information gaps are also assigned to the clickbait category but do not have to be perceived as negative by individuals (Blom & Hansen, 2015). Lakkaraju, McAuley, and Leskovec (2013) also dealt with the framework conditions. They found that the interaction of the right title (length, description, sentence structure, and chosen word type), at the right time (between 10 a.m. and 4 p.m.) and in the right community (multiple uses of the same content in the same

community has a negative impact on distribution) is essential for widespread dissemination. Images are another factor influencing the intention to share, as they can greatly increase the virality of a content (Kourogi et al., 2015). Content including an image is shared three times as often as content based on plain text. However, text-based content is commented on more often than images. This could be because text-based content offers more depth (Guerini et al., 2013). The chapter "content" refers to the type of images used to increase virality. In summary, it must be ensured that the selected headlines attract enough attention but do not contain false or exaggerated information that could be perceived as deceptive. In addition, there are other created framework conditions that can influence the distribution rate. These have been hardly researched so far and should be examined in the future.

4.1.5 | Random framework conditions

Some claim that the virality of content also happens accidentally (Berger & Milkman, 2012). Researchers have shown (e.g., Berger & Milkman, 2012; Botha & Reyneke, 2013; Heimbach & Hinz, 2016) that some mechanisms in VM can already be explained. However, there are factors that can influence virality and cannot be controlled. One example is occurrences that influence world affairs (presidential elections, technological inventions, environmental influences, etc.). Another example would be comments or general opinions on content. Of course, it is possible to drive people in a certain direction, but it is not always possible to predict where they will end up. So, positively intended content can be pushed into an undesirable direction by people's negative opinions and trigger negative consequences (e.g., flame war). Stopping this negative public opinion is extremely difficult but would be a very interesting topic for further research. It is also a fact that individual opinions and attitudes on certain topics change over time (Kelman, 2017), as does the consumer market, which dynamically adapts to the current needs of individuals (Griffin, 1997). It is therefore logical that people's preferences are constantly changing. This can be slow, as in the food industry, where consumer demand is slowly moving toward locally produced products (Adams & Salois, 2010). However, trends can also develop quickly. The so-called Fidget Spinners are an example of this. These were already invented in the 1990s (Luscombe, 2017) and experienced great hype in 2017 (Benwell, 2017). This product has spread quickly. Why this product became so successful within a very short time cannot be determined (Lee, 2017). Finding an explanation for trends that develop within a very short time is usually not trivial or even impossible. For this reason, it is assumed that there are random conditions that can influence the virality of content or products. Further research in this area is necessary to minimize the factors previously regarded as random. However, it is assumed that some random factors can always contribute to the virality of content and products. This is the case because a 100% prediction of environmental conditions or environmental events is not possible. Table 2 shows an overview of the findings of the factor "framework conditions."

TABLE 2 Overview of the “framework conditions” factor

Variable	Statement	Reference
Value of the content	A high perceived value of content has a positive effect on the transmitter-receiver relationship.	Miquel-Romero and Adame-Sánchez (2013)
	Poor quality content is highly unlikely to be seen at all, regardless of the strong transmitter-receiver relationship.	Phelps et al. (2004)
	If the content is not convincing or is understood as a pure advertising message, the intention to share the content may decrease despite the high credibility of the transmitter.	Hsieh et al. (2012)
The credibility of the transmitter	The credibility of a source has a positive influence on the purchase decision or on the use of the content.	Aghdaie et al. (2012); Gunawan and Huarng (2015)
Relationship to the transmitter	The probability of seeing content increases if the receiver is closely related to the transmitter.	Camarero and San José (2011); De Bruyn and Lilien (2008)
	The willingness to share content increases in a close transmitter-receiver relationship.	Ketelaar et al. (2016)
	A close receiver-transmitter relationship has a positive influence on the evaluation of the content.	Gunawan and Huarng (2015)
	In the case of consumer goods, news from strangers is more effective in terms of intention to share compared with news from known persons.	Schulze et al. (2014)
Level of activity	The criteria degree of interest, literary quality and argumentative power of a piece of content have less influence on the decision to share for people who are actively looking for a content, but a stronger influence on people who receive the content passively.	Chen and Berger (2016)
Influencer	The impact of the influencer decreases with increasing reach.	Moldovan et al. (2017)
	The influencer can promote a faster and more widespread viral marketing campaign.	Goldenberg et al. (2009); Hinz et al. (2011)
	If the content is received from an opinion leader, the perceived information value of the message and the distribution rate of the information increases.	Bobkowski (2015)
	The broad mass has the greatest influence on the viral spread of content. Opinion leaders have more local influence.	Watts and Dodds (2007); Zhang et al. (2016)
Communication channel	The communication channel should be adapted to the respective needs of the desired target group and offer easy usability.	Grifoni et al. (2012)
	The chosen communication channel should be tailored not only to the target group but also to the product or the content itself.	Heimbach and Hinz (2016); Schulze et al. (2014)
	Social networks are particularly suitable for viral marketing because of the possibility of spreading information quickly and comprehensively.	Tang et al. (2018)
	Written communication is better suited for viral marketing compared with oral communication because of the asymmetry of information.	Berger and Iyengar (2013)
Characteristics of headlines to increase their performance	Headlines must be precise, striking and expressive to attract attention.	Nwala and Umukoro (2017)
	Headlines should arouse curiosity.	Kourogi et al. (2015); Blom and Hansen (2015)
	Headlines must provide a summary of the content.	Kim et al. (2016)
	In formulations of headlines, short words, signal words, and sentimental words should be used.	Kuiken et al. (2017)
	Words such as “breaking” and “new” attract attention.	Kourogi et al. (2015)
Clickbait	Clickbait can be deemed spam and have a negative impact.	Potthast et al. (2016)
	Clickbait headlines often use false statements and facts with the goal of generating as many clicks as possible for content.	Chen et al. (2015)
	Clickbait can cause disappointment in individuals, as the content cannot satisfy the expectations that arise.	Potthast et al. (2016)
	Clickbait has a positive effect on headline performance when used without intentionally misleading the user.	Kuiken et al. (2017); Blom and Hansen (2015)

4.2 | Content

Perhaps the most influential factor on the two decision-making stages is the content itself, with greater weight given to the interaction decision. The most important question is how content should be shaped to promote high virality. Much is known about the nature of the content to promote the virality of this content. For instance, it is well known that content must be interesting to attract attention (Miquel-Romero & Adame-Sánchez, 2013; Berger & Milkman, 2012; Berger & Schwartz, 2011). A detailed look at the type of content reveals further aspects that influence the DMP in VM.

4.2.1 | Emotions

Emotions are often cited in the literature as drivers of the virality of content (Berger, 2011; Berger & Milkman, 2012; Dafonte-Gómez, 2014; Dobeles, Lindgreen, Beverland, Vanhamme, & van Wijk, 2007; Tsugawa & Ohsaki, 2015). Emotions increase both the intention to share content and the speed of the diffusion of content (Stieglitz & Dang-Xuan, 2013). The question now is, which emotions influence the intention to share? Berger and Milkman (2012) claim in their work that positive emotions have a higher influence on the intention to share than negative emotions do. The results from Berger and Milkman (2012) were confirmed in a later study by Heimbach and Hinz (2016). Dafonte-Gómez (2014) analyzed the 25 most used viral video ads from 2006 to 2013 and came to the same conclusion. Fifty-eight percent of the videos contained humorous content. Erotic (8%) and violent content (16%) were used less. Moreover, this form of content was usually presented in a humorous way. Emotional happiness was the focus of the content of almost all the advertising videos analyzed (92%). Meanwhile, negative emotions were usually used only as a surprise and rarely in isolation. In general, the surprise effect was often used in viral video ads (76%). As a result of the small number of videos analyzed, this study should be critically evaluated. However, similar results were achieved in a study by Golan and Zaidner (2008). They found that humor was used in 91% of viral advertising messages, sex in 28% of them, violence in 14% of them, children in 13% of them, and animals in 18% of these messages.

Hsieh et al. (2012) also confirmed a clear increase in the intention to share, triggered by positive emotions (such as humor). Further effects include an increasingly positive attitude toward this content (Hsieh et al., 2012) and toward the brand (Eckler & Bolls, 2011). The combination of positive and negative emotions, not just in the form of surprises, can also have a positive effect. Brown, Bhadury, and Pope (2010) noted the positive influence of comedic violence in advertising content on the intention to share as well as on the attitude toward the content and toward the integrated brand. Botha and Reyneke (2013) concluded that content is shared only when it is associated with positive emotions. If the associated emotions are negative or neutral, the content is not shared further. This thesis must be critically evaluated, as several studies assume that negative emotions can also have a positive effect on the intention to share

(Berger & Milkman, 2012; Berger, Sorensen, & Rasmussen, 2010; Cohen, 2014; Stieglitz & Dang-Xuan, 2013). In this respect, Cohen (2014) was able to gain interesting insights from examining the intention of individuals to share a "serious game." It was confirmed that both negative and positive emotions promote the intention to share. However, it was found that negative emotions stemming from interaction with the content also influenced the intention to share in the long term. If positive emotions were triggered, the effect during the use of the content was short-lived. The reason for this was because negative emotions probably left a more lasting impression. Brown et al. (2010) drew a similar conclusion. In this paper, it was found that a combination of humor and strong violence in one piece of content increases brand perception in the long term (2 to 3 weeks). Further research should shed more light on this insight to better understand the temporal component of the influence of emotions on the intention to share. If the content is perceived to be controversial, this may also increase the intention to share, as it increases the degree of interest in the content. If the content is too controversial, the opposite effect occurs because individuals may feel uncomfortable with sharing or discussing it (Chen & Berger, 2013). However, there are also opposing views, as in the work of Stieglitz and Dang-Xuan (2013), where a significant difference in the intention to share negative or positive emotions is not acknowledged. In summary, the use of content that can be interpreted negatively must be carefully considered. It is possible to increase virality through negative content, but risks also exist for products, companies or people who distribute this content.

Emotions differ not only in whether they are positive and negative but also in their degrees of activation (Smith & Ellsworth, 1985). It is known that emotions triggered by content that causes a strong activation or excitement in individuals also increase the intention to share (Berger, 2011; Berger & Milkman, 2012; Guadagno, Rempala, Murphy, & Okdie, 2013). Also, negative emotions, which have an activating (e.g., fear) instead of a deactivating (e.g., grief) influence, have a positive effect on the intention to share (Berger & Milkman, 2012).

In general, content that generates high excitement through positive emotions is shared up to 30% more compared with content that triggers other emotions (Nelson-Field, Riebe, & Newstead, 2013). The degree of activation could also serve as a mediator for other factors. For example, it is known that multimedia effects have a positive influence on the intention to share and on the attitude toward content (Hsieh et al., 2012). The degree of activation could serve as an explanation for the positive influence of multimedia effects on virality. These effects probably influence the degrees of activation of individuals or increase the activating influence of the emotions used. However, this is only an assumption, and empirical evidence is still lacking. According to Milkman and Berger (2014), scientific work can also be designed in such a way that non-scientists share it more often. To achieve this, research must be designed to arouse emotions, increase perceived benefits and stimulate the interest of the individual. This summarizes the most important aspects of viral content, including in the nonscientific area.

Basically, it can be said that content must trigger emotions (Dobele et al., 2007) or arouse the interest of people (Berger & Milkman, 2012) to increase the intention to share. These emotions should be positive or combined with negative emotions, for example, for surprises. However, the use of negative emotions can also be advisable in some cases to increase virality.

4.2.2 | Images

Images are a commonly used content type in social networks, and their relevance increases with the growth of popular networks, such as Instagram. It is known that images increase the virality of news in social networks (Guerini et al., 2013; Kourogi et al., 2015). In their analysis, Deza and Parikh (2015) categorized the images shared on the Reddit platform according to their virality. Images that can be assigned to the categories of "animal," "synthetically generated," "(not) beautiful," "explicit," and "sexual" correlate most strongly with virality. Guerini et al. (2013), investigated the influence of individual image properties on the virality of images. In a comparison of static and animated images, it becomes clear that static images are commented on more frequently and are provided with simple expressions of interest (in this case, "plusoners"). Animated images, on the other hand, are shared more frequently. The reason for this is that animated images are often used for funny content. Images containing faces (in at least 10% of the images) are commented on more frequently and with a simple expression of interest but are less frequently shared compared with images without faces. The same is true when it comes to distinguishing the brightness of images. Bright images are shared more often, but darker images are commented on more strongly and are provided with simple expressions of interest. The same applies to color images (vs. black and white images), except that color has no influence on the sharing rate. Khosla, Sarma, and Hamid (2014) have also investigated the properties of successful images. Images with a higher reddish component are more successful than images with a bluish or greenish tone. In addition, the displayed objects have an influence. Examples are Miniskirt, maillot, bikini, cup (strong positive influence); cheetah, giant panda, basketball (medium positive influence); wild boar, solar dish, horse cart, guacamole (low positive influence); spatula, plunger, laptop, golfcart, space heater (negative influence). Persons in images are considered eye-catchers and can increase the popularity of the images. In general, objects in images should arouse interest. Regarding the memorability of images, it is known that images with faces of people are more likely to be remembered than images with quiet environments, for example, landscapes (Isola, Parikh, Torralba, & Oliva, 2014). Thus, it becomes clear that simple partial changes in images' properties can influence the intention to interact with these images.

It shows that research on the influence of images in VM is limited, and therefore, future research is necessary to shed light on this important part of the DMP in VM. Especially in relation to the first decision level, it is important to know how images should be designed to increase people's attention.

4.2.3 | Designing the content from the company's point of view

As the term "VM" implies, not only is virality important for VM content creators (e.g., companies) but also a marketing benefit is achieved. Hence, it is important to consider additional factors that are not solely related to the pure increase of virality.

In general, noncommercial content is more viral than advertising content is (Nelson-Field et al., 2013). Nevertheless, VM can have a positive influence on individuals' buying activity (Hamed, 2017). The use of social networks also has a positive effect on purchasing activities (Zhang, Trusov, Stephen, & Jamal, 2017). The spread of viral content usually begins with strong exponential growth that reaches a peak. Thereafter, however, the spread decreases rapidly (Broxton, Interian, Vaver, & Wattenhofer, 2013). VM, therefore, has a short-term effect (Leskovec, Adamic, & Huberman, 2007). In advertising, content should thus be designed in such a way that the individual can always remember it; this can be achieved by integrating so-called triggers into the content. The environment activates these triggers, and the triggers cause individuals to remember the content or the advertised product, which keeps the content in the social conversation (Berger & Schwartz, 2011). In this context, one can speak of a "stickiness factor," which content should offer to remain in the individual's memory (Gladwell, 2000). An example would be the song "Friday" by Rebecca Black, which uses the weekday of Friday as the song title and thus simultaneously serves as a trigger. Shehu, Bijmolt, and Clement (2016) have discovered that the beginning and end of advertising videos are crucial for a high distribution rate. The beginning is important to attract people's attention. However, the end is significantly more important for the intention to interact. Furthermore, there should be a special and distinctive part of the video.

As already mentioned, a tradeoff may exist between the sharing rate and corporate success. It is not prescribed that a high sharing rate will lead to a company's success. According to Tucker (2015), a negative correlation exists between the number of views and the intention to buy an advertised product. This effect occurs with viral content of three to four million views. In addition, it was found that for every additional million views of advertising content, the intention to buy the advertised product decreases by approximately 10%. Huang, Su, Zhou, and Liu (2013) also found that viral content has no influence on purchase intention, as individuals focus more on the history of the content than on the product information. However, the work of Akpınar and Berger (2017) shows that it is possible to create a so-called "valuable virality." To achieve this, the advertising content must convey emotions, and at the same time, the brand must be a natural part of the advertising content. However, the integration of the brand into the content must not be too strong and must not act as subliminal advertising. This has negative effects on the perception of the company and on the intention to share its contents (Hsieh et al., 2012). Valuable virality can also be created via negatively perceived content about products (negative publicity), for example, by increasing public awareness of the product. Negative advertising increases the success of products

that are still unknown, but it harms the success of already-known products (Berger et al., 2010).

In conclusion, it becomes clear that viral content also carries risks. When one is creating viral content from a business perspective, it is important to calculate and analyze exactly how the content affects the individual, as unwanted negative effects on the company are possible. However, the careful and correct use of VM can have a strong cost-benefit effect for companies. Table 3 provides an overview of the findings of the influencing factor of “content.”

4.3 | Interaction aims

The third overarching influencing factor is the individual's interaction aim. In the context of this factor, the following question arises. Why do people interact with content?

One reason why people interact with content is the urge to create positive images of other people (Berger, 2014). However, motivations can be different (e.g., altruistic or selfish). To shed more light on the factor of interaction aims, the question that must be

TABLE 3 Overview of the “content” factor

Variable	Statement	Reference
Content	Content must be interesting for the individual to attract attention.	Miquel-Romero and Adame-Sánchez (2013); Milkman & Berger (2014); Berger and Schwartz (2011)
	Content must arouse emotions to increase the sharing rate.	Berger (2011); Berger & Milkman (2012); Dafonte-Gómez (2014); Dobelet et al. (2007); Tsugawa and Ohsaki (2015)
Emotions	Most viral content contains humor.	Dafonte-Gómez (2014); Golan and Zaidner (2008)
	Negative emotions are usually used only as a surprise and rarely in isolation.	Dafonte-Gómez (2014)
	Emotions increase the intention to share and the speed of diffusion.	Stieglitz and Dang-Xuan (2013)
	Positive emotions have a higher influence on the intention to share compared with negative emotions.	Berger & Milkman (2012); Heimbach and Hinz (2016)
	Negative emotions can also have a positive effect on the intention to share.	Berger & Milkman (2012); Berger et al. (2010); Cohen (2014); Stieglitz and Dang-Xuan (2013)
	The combination of positive and negative emotions has a positive effect on the intention to share.	Brown et al. (2010)
Level of activation	Negative emotions have a long-term and positive emotions a short-term effect on the intention to share.	Cohen (2014)
	Emotions triggered by content that causes strong activation or excitement in individuals increase the intention to share.	Berger et al. (2010); Berger & Milkman, 2012; Guadagno et al. (2013)
	Negative emotions, which have an activating rather than a deactivating influence, have a positive effect on the intention to share.	Berger & Milkman (2012)
Images	Content that generates high excitement through positive emotions is shared up to 30% more often compared with content that triggers other emotions.	Nelson-Field et al. (2013)
	Images with a higher reddish component are more successful than images with a bluish or greenish tone.	Khosla et al. (2014)
	Persons and interesting objects increase the popularity of images.	Khosla et al. (2014)
Content from the company's point of view	Images increase the virality of news in social networks.	Guerini et al. (2013); Kourogi et al. (2015)
	Viral marketing can have a positive influence on buying activity.	Hamed (2017)
	Content should be designed in such a way that it remains in the memory of the individual.	Berger and Schwartz (2011); Gladwell (2000)
	The beginning and end of advertising videos are crucial for a high distribution rate.	Shehu et al. (2016)
	To create valuable viral content, emotions must be conveyed, and at the same time, the brand must be a natural part of the advertising content.	Akpinar and Berger (2017)
	Negatively perceived advertising increases the success of products that are still unknown but harms the success of already-known products.	Berger et al. (2010)

answered first has to do with the purpose for which individuals use social media—probably the most important channel in VM (Kaplan & Haenlein, 2011). In an explorative study by Whiting and Williams (2013), 25 in-depth interviews showed that most people, 88% of respondents, used social media for social interaction. Other reasons included information search (80%), entertainment (64%), communication benefits (56%), comfort (52%) or the monitoring and observation of others (20%). In addition, 56% said they used social media to express their opinions, and 40% of respondents shared information. Individuals also use social media to provide the public with images of themselves and thus become part of the online community (Beverland, Dobeles, & Farrelly, 2015). The reasons for using social media provide an initial indication of the motivation of the individual to share content with others. Influencers who have a strong impact on the distribution of content share content with others to show their uniqueness and stand out from the crowd (Ho & Dempsey, 2010). Influencers not only are characterized by the exchange of external content but also use their own content to present themselves positively (e.g., through the creation of opinions or evaluations).

In general, people have the urge to communicate with other people (Masmoudi, 1979) and to build social relationships with them (Baumeister & Leary, 1995). With the help of WOM, people can satisfy this urge (Hennig-Thurau et al., 2004). Individuals like to talk about themselves and their personal relationships and experiences in a social group (Dunbar, Marriott, & Duncan, 1997). In addition, people like to share content with others whom they regard as useful (Huang, Lin, & Lin, 2009; Miquel-Romero & Adame-Sánchez, 2013), important or helpful (Huang et al., 2009). People in the role of transmitter continue to weigh the extent to which sharing influences their own images. When people believe that they can strengthen their own images by sharing content with others, they are more willing to share (Huang et al., 2009). It is known that the subjective norm influences individuals' behavior intentions (Ajzen, 1991; Gunawan & Huarng, 2015; Schepers & Wetzels, 2007). As far as the willingness to exchange is concerned, the content must correspond to the social norm for wide distribution to take place. People do not want to pass on content that could damage their reputations or that society does not accept (Palka et al., 2009). In addition, the transmitter must feel that the recipients also accept social networks and that these belong to the social norm to increase the willingness to share (Yang, 2013).

One of the strongest motivators for sharing content is self-esteem through sharing in social networks (Chu, Lien, & Cao, 2018). Individuals share content to distinguish themselves better from others and thereby strengthen their self-esteem (Berger, 2014; Chung & Darke, 2006). In addition, people expect social benefits through sharing (Hennig-Thurau et al., 2004). People achieve these benefits, for example, by spreading their own opinions or those of others regarding products or content. In a study by Scholz et al. (2017), brain activity was measured in the area of the individual valuation system. It was confirmed that self- and social cognitions are strong drivers of virality. Individuals hope

for positive consequences for themselves if they share content with others. Self-esteem is increased not only through positive opinions but also through the exchange of negative opinions. Interestingly, positive opinions are generated more often than negative ones (e.g., product ratings) are. However, negative opinions that individuals receive from others are more often disseminated than positive ones are (Angelis, Bonezzi, Peluso, Rucker, & Costabile, 2012). It is interesting to note that males are more inclined to promote themselves than females are. Females, on the other hand, tend to acquire knowledge in social networks to build up new social relationships or maintain old relationships (Dunbar et al., 1997). In a study by Zhang, Feick, & Mittal (2014), gender-specific differences in the likelihood of negative WOM transmission were documented. According to this study, females have fewer concerns than males do regarding sharing negative experiences with strong ties, even if they might put them in a bad light. However, no difference was found in weak bonds. In this context, further research on the differences in the interaction behavior between males and females would be interesting.

The work of Cohen (2014) showed that the type of content also influences the motivation to share. In this work, the intention of people to participate in the serious game "Darfur is Dying" was investigated. The complaints of refugees were obtained by means of a free game, and background information was provided. Although this game offers emotional experiences for the player, it is not designed for pure entertainment value. In connection with this type of content, it was found that persons do not share this game for hedonistic or useful reasons. It was probably made more for its pure content and for the need to make others aware of social grievances, perhaps to help. This makes it clear that depending on the type of content, the sharing motivation of the individual persons can also adapt. In addition to the type of content, individual people also have different motivations for sharing in relation to the audiences addressed. If only one person is addressed (e.g., send an e-mail to a person), content that is useful or helpful to the recipient is more frequently shared. If, on the other hand, several people are addressed (e.g., in a public Facebook post), then people attach more importance to self-presentation. In this case, people are careful not to present themselves in a bad light (Barasch & Berger, 2014).

Berger (2014) described several interaction aims in his work that can influence individuals' sharing decisions. These aims are as follows:

- **Impression management:** Individuals want to make positive impressions on others by sharing content (e.g., entertaining, useful, unique or shared content).
- **Emotion regulation:** Individuals can regulate their own emotions by sharing content. For example, people can express their frustration through negative ratings if they have had bad experiences with a product (e.g., emotional or exciting content).
- **Information acquisition:** Individuals talk about topics (e.g., a new car) to start conversations about these topics and thereby get information about these topics (e.g., if not enough information about a topic is found).

- **Social bonding:** Individuals want to communicate with other people to create and maintain social bonds. In addition, the urge for social contacts is satisfied (e.g., similarities or emotional content).
- **Persuading others:** Individuals want to influence others by sharing content to realize their own desires. For example, a person could show his or her friends positive ratings of a restaurant to tempt them to visit it (e.g., polarized or exciting content).

These five aims can be either selfish or altruistic depending on the point of view. According to Berger (2014), further foresight is needed to determine whether altruism or selfishness motivates individuals more. It has become clear that many aspects of individuals' cognitive levels of individuals can have an influence on the decision to interact. Examples of questions that individuals might ask themselves include: "How will others see me when I publish this video about Kylie Jenner?" "Will my friends think badly about me when I share this video?" "Can I let my anger about this bad movie run free? Will it make me feel better?"

Based on the above findings, depending on the situation, individuals consider whether they want to interact with content. According to the available literature, this depends not only on the type of content but also on the motivation to share. Table 4 provides an overview of the findings of the last influencing factor, interaction aims.

5 | DISCUSSION AND CONCLUSION

5.1 | Discussion

The modeling of the decision-making process (DMP) in viral marketing (VM) is necessary to structure research as well as application and thus clarify the complex process. This raises the question of why a new model in the area of the DMP in VM is necessary if models that illustrate this process already exist. The biggest difference between the DMP model of this work and models from the previous literature is the change in the process from static to dynamic. The S-O-R model, which serves as a basis for decision problems, is also based on a static approach. The DMP of individuals is very complex, and a variety of factors that can occur at different points in time influence it. In addition, it is, of course, possible for individuals to revise or re-evaluate their decisions. The predecessor models are based on a fixed structure that follows a predefined sequence and is definitive. The model of this work breaks up this fixed sequence and adapts it to the conditions of the present. This allows the complex processes and possibilities of the individual to become more visible. This is described in the following using an example. Suppose a person uses a social media platform and discovers interesting content. If one were to explain the process with the previous models, the person would receive the content, then look at it and decide (to share or not to share) based on the nature of the content. In reality, for example, a

TABLE 4 Overview of the "interaction aims" factor

Variable	Statement	Reference
Image	People share content to create a positive image towards other people.	Berger (2014); Huang et al. (2009)
	Individuals use social media to present a positive image of themselves to the public.	Beverland et al. (2015)
Opinion leaders	Opinion leaders share content to show their uniqueness and stand out from the crowd.	Ho and Dempsey (2010)
Subjective norm	Persons do not want to pass on content that could damage their reputations or that society does not accept.	Palka et al. (2009)
	The transmitter of content must feel that the recipients accept social networks and that they are part of the social norm to increase the willingness to share.	Yang (2013)
Self-esteem	One of the strongest motivators for sharing content is self-esteem through sharing on social networks.	Chu et al. (2018)
	Individuals share content to distinguish themselves better from others and thereby strengthen their self-esteem.	Berger (2014); Chung and Darke (2006)
	Men are more inclined to promote themselves than women are.	Dunbar et al. (1997)
Motivations for sharing	Depending on the type of content, individuals' sharing motivations can adapt.	Cohen (2014)
	Interaction aims are impression management, emotion regulation, information acquisition, social bonding and persuading others.	Berger (2014)
	People like to share content with others whom they regard as useful, important or helpful.	Huang et al. (2009); Miquel-Romero and Adame-Sánchez (2013)
	Individuals hope for positive consequences for themselves if they share content with others.	Scholz et al. (2017)
Audience size	When content is transmitted to several people, more emphasis is placed on self-portrayal than when it is transmitted to one person, in which case more emphasis is placed on the usefulness of the content.	Barasch and Berger (2014)

person could make a decision and interact with the content while viewing it. It would also be possible to revoke this decision after reconsideration. The decision as to whether the person wishes to see the content at all may also change as the content is viewed. Maybe the person is watching the first 10 s of a video and then decides not to see the content after all. Such examples are more the rule than the exception in today's use of social media applications. These dynamic processes cannot be simulated with the previous models. This is the main reason for the need to introduce a new DMP model in VM. The model also serves to quantify complex cognitive processes. If cognitive processes are broken down into individuals' final decisions (yes or no), the measurability of this model is preserved. Furthermore, in contrast to earlier models, the direct influence of content on an individual's attitude toward content is included, and outdated terminology (sharing instead of interaction) is brought up to date. Overall, the model enables more targeted and structured future research. For companies, the model can serve to better understand consumers and their behavior on social media.

This work contains some limitations. The model of this work is based on unpublished test studies and well-founded literature analysis. However, quantitative research to validate the model is still pending. The DMP of individuals in VM is influenced by a variety of factors. For the sake of simplification, these influencing factors have been grouped into three main categories and therefore do not represent the full range of possible influencing factors in detail. The model should, therefore, be regarded as the foundation for further research. In addition, the model of this work implies that content affects individuals. This is essential, because for companies not only the distribution of content is relevant, but also the impact on individual consumers. The relationship between the distribution rate and attitude toward content has been rarely explored. This work points to the existence of this problem, but, unfortunately, provides very few answers in this area. It would be desirable if future research were to test and, if necessary, extend the model to make further progress in the understanding of individuals in the field of VM.

5.2 | Conclusion

This work provides an overview of the available literature and suggestions for further research in the field of VM. Furthermore, old perspectives are refreshed (e.g., substitution from sharing to interaction) and structured. For this purpose, a model is introduced that describes the DMP of individuals in VM. This model illustrates that DMP is more dynamic and complex than described in the previous literature. The model helps with organizing the research area of VM in a more structured and clearer way. Basically, a distinction is made between two decision stages that deal with the acceptance and interaction of content. Three factors mainly influence these decision stages: framework conditions, content and interaction aims. The factor of framework conditions can be divided into receiving, created and random framework conditions. The content itself, of course, plays an important role, but other factors also have a relevant influence on the DMP.

When creating content, it is important to ensure that it arouses the interest of the individual and conveys emotions to achieve widespread distribution. It should be noted that no magic formula exists for the guaranteed success of content. If, for example, content is communicated to a specific target group, the interests and needs of this group must be considered. The choice of a suitable communication channel plays a role, as does an adjustment in the design of the content. Another aspect is that high dissemination does not directly mean a positive effect through content (e.g., on the success of a company). It is therefore important that distribution is not achieved at all costs but that the content has a positive effect on the individual (e.g., on brand perception). If this is not the case, content can spread strongly but, in the end, have negative effects (e.g., flame war). The influence of the factor of framework conditions has been underestimated in the literature so far. Evidence exists that this factor can have a significant influence on the first decision level in terms of whether the content is considered at all. The factor of interaction aims, on the other hand, has a stronger influence on the second decision stage. People decide whether they want to interact with content based on various motivations (e.g., altruistic or selfish). The content itself has a strong influence on both decision-making stages. Altogether, the dynamic model presented in this paper illustrates the individual processes of the DMP in the VM and offers starting points for further research.

5.3 | Further research

This work shows that many questions related to the DMP of VM have already been answered in the existing literature. With the help of the established model, however, areas are becoming visible in which further research is needed. Sharing is very well researched, but simple expressions of interest (likes, comments), which can also increase virality, have hardly been studied so far. However, they can also increase virality, and individuals can usually apply them more easily. Further research could focus on the different types of interaction and gain insights. Regarding this paper's model, it is important to know which factors have the strongest influence in each decision stage. Are the framework conditions the most important influencing factor in why people become aware of the content, or is it the content itself that has the influence? What influence does the interaction aim have on the actual interaction decision? Another point is the influence of content on the opinions of individuals in general. Does the content with which a person interacts have a strong influence on this person? Can this influence also be negative? How strong is the influence on people's opinions (e.g., brand image) if they do not interact with content? Does content that is rejected in the first decision stage not influence these people?

Some facts about the impact of framework conditions in the DMP are already known. Among the three influencing factors, however, this area offers the greatest potential for further research. In terms of social media networks, for example, deeper insights would be useful for identifying the best possible network for the different types of

content. Regarding the receiving framework conditions, further research could examine whether individuals are more likely to open content from other individuals (e.g., influencers) compared with content that companies submit. It could also be investigated whether the content that companies send is perceived as obvious advertising rather than content that influencers distribute. In addition, it could be investigated whether the content that companies send is perceived as obvious advertising rather than content that influencers spread. Previous research has focused on the identification of influencers (opinion leaders). This area is currently no longer relevant, as influencers can be identified via simple methods (e.g. by analyzing the follower count). More important for further research are the questions of how strong the impact of influencers is in social media marketing and how companies can use this impact. Created framework conditions can be modified and are therefore an important field for further research. Only headlines have already been examined in several research projects. In addition to the headlines, other framework conditions for further research should also be examined in a targeted manner. Exemplary questions include: How does the arrangement of various elements (e.g., headings, images, texts and secondary information) affect the intention to interact? Should pictures or videos be used to attract attention? How should the media (e.g., color, shape, brightness, size) be designed to increase the interaction rate or attention? How do clickbait images or videos that exaggerate the content affect individuals? Which aspects do people pay attention to, perhaps even unconsciously, before they look at the content? In general, the relevance of framework conditions should be examined. Do these factors influence the individual's attention and interaction decisions?

The content itself has been thoroughly examined so far. However, because of its high complexity, this area also requires further research. For example, it would be interesting to know how strongly advertising affects the interaction rate. One point of criticism of previous research in VM is the following. Basically, only two major influencing factors have been identified so far: emotions and arousing interest in the content. It is conceivable that further influencing factors exist. For example, the structure of video content could be examined. How should the beginning of a video be designed to attract the most attention? Does the length of a video affect the interaction rate? Why do people stop viewing content? From a business perspective, it is important to examine the impact of viral content on the individual because nowadays, it is possible to acquire a higher reach and thus a certain virality of content. Influencing the distribution of content could be pushed into the background for some financially strong companies. Accordingly, it may be more important in the future to examine whether factors that generate a high level of distribution also have a positive effect on brand perception, for example. Akpınar and Berger (2017) have taken the first step in this direction.

In the area of interaction aims, it could be investigated which stimuli can increase the interaction rate: How should the end of a piece of content be designed so that people interact with it? To what extent can incentives (e.g., lotteries) influence the interaction rate?

For what reasons does the attitude toward a piece of content change in the course of viewing it? Which factors generally influence the attitude toward content (e.g., ethics, morals)? How strongly would the interaction rate change if people could interact anonymously on social networks or if the interactions could be seen only among a close circle of friends? It turns out that some exciting questions are unanswered in VM. Further research should shed more light on this area of research.

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