using FACEBOOK as a marketing tool

in veterinary practice:

the key to
CUSTOMER ENGAGEMENT

Using Facebook as a marketing tool in veterinary practice:
the key to customer engagement

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ABSTRACT

Due to the emergence of social media, businesses have gained the opportunity to use a new set of tools to communicate with their customers. Veterinary practices seem to be keen to seize this opportunity. Regarding this subject, most existing literature focuses on developing and enhancing customer engagement. Customer engagement is defined as a deep, meaningful and long-lasting relationship between a customer and a brand. It is argued that increasing the level of customer engagement will lead to superior business performances.

As veterinary practices find it difficult to shape their online presence on social media, the aim of this study was to investigate what content creates the highest levels of customer engagement. Moreover, it was studied if veterinary practices that use a marketing strategy focusing on customer engagement indeed create higher levels of customer engagement. Messages posted in a six months period on Facebook pages of fifty Dutch veterinary practices for companion animals were analysed. The influence of enrichments and different message categories on levels of customer engagement was determined. The ten participants scoring highest and the ten scoring lowest on customer engagement were sent a questionnaire to investigate if they used a marketing strategy focusing on customer engagement.

The addition of a photo or video to a Facebook post that contained text resulted in highest levels of customer engagement, especially if one solicited for comments, too. The addition of a link turned out to have a negative influence. Messages focusing on community relationship were found to have the highest levels of customer engagement, while those focusing on product promotion scored lowest. These results provide guidance to veterinary practices in shaping a social media presence.

The second research question could not be answered, as none of the participants used a customer engagement focused marketing strategy. In fact, none of the participants appeared to use a specific marketing strategy at all. As the use of marketing in veterinary practice has been advocated, practices are encouraged to write down a marketing plan and implement their social media strategy.

CONTENTS

INTRODUCTION

Social media can be defined as internet-based applications, platforms and media that are used to achieve interactions, collaborations and the sharing of content. There is a wide range of different types of social media. Based on their function, they can be categorized as follows (Lee Ventola 2014):

- Social networking (e.g. Facebook, Google+, Pinterest)
- Professional networking (e.g. LinkedIn)
- Media sharing (e.g. YouTube, Instagram)
- Blogs (e.g. Tumbler) and microblogs (e.g. Twitter)
- Knowledge and information aggregation (e.g. Wikipedia)
- Virtual reality and gaming environments (e.g. Second Life)

Nowadays, the significance of social media can't be denied. A report of Statistics Netherlands (2014b) showed that 70 percent of the Dutch internet users used one or more social media sites in 2013. This percentage was even higher in people between the age of 12 and 24 years, namely 93 percent. Of all social media services, social networking sites were most popular. In 2013, 60 percent of all Dutch internet users used one or more social networking sites (Statistics Netherlands 2014b). In 2014, Facebook was the most popular social network in the Netherlands with 9.4 million active users, of which 6.6 million people used the service on a daily basis (Turpijn, Kneefel et al. 2015).

Thanks to the emergence of social media, businesses have gained the opportunity to use a new set of tools to communicate with their customers (Kaplan, Haenlein 2010, Sashi 2012). Veterinary practices seem to be keen to seize this opportunity. The Veterinary Social Media Monitor 2013 showed that 70 percent of 174 respondents said that their veterinary practice used social media for business purposes. 91 percent of these veterinary practices used Facebook and 36 percent of them used Twitter (Manten 2014). Veterinary practices seem to adopt social media much quicker than small businesses in other branches (46 percent in 2013) (Statistics Netherlands 2014a).

Results of the Veterinary Social Media Monitor 2013 indicate that veterinarians think social media can be of value to their practice (Manten 2014). How and to what extent remains unknown, since no scientific research is known about this subject in veterinary medicine. The same goes for many other industries. Most of the existing literature tends to be conceptual, and the effects on turnover or profits are rarely examined (Oni, Shumba et al. 2014).

Instead, research tends to focus on developing and enhancing customer engagement (CE). There is an ongoing debate about the true definition of CE (Sashi 2012, Hollebeek, Glynn et al. 2014, Brodie, Hollebeek et al. 2011). However, all researchers seem to agree that customer engagement is about creating a deep, meaningful and long-lasting relationship between a customer and a brand (Economist Intelligence Unit (EIU) 2007, Sashi 2012). Sashi (2012) expands this definition by stating that CE 'goes beyond awareness, beyond purchase, beyond satisfaction, beyond retention, and beyond loyalty.'

It is argued that increasing the levels of CE will improve the customer retention rate and lead to superior business performances (Hoffman, Fodor 2010, Hollebeek, Glynn et al. 2014, Kumar, Aksoy et al. 2010). Indeed, Reichheld and Sasser (1990) proved that higher retention rates can be profitable. By analysing over 100 service businesses they showed that limiting the customer defection rate (i.e. the rate at which customers end their relationship with a company) with just five percent improved profits with 25 percent to 85 percent. They found that expected profits increased every year a customer stayed with a company. Moreover, costs to attract a new customer appeared significantly higher than the costs to retain a current customer. Determining the exact level of CE appears to be difficult, though (Kumar, Aksoy et al. 2010). Furthermore, it is argued that it is impossible to measure the direct outcome of higher levels of CE by using traditional key performance indicators (Peters, Chen et al. 2013, Hoffman, Fodor 2010).

During their research on social media adoption in small to medium-sized enterprises in Ireland, researchers felt that the most important reason to adopt social media was to not fall behind on

the competition, and most companies lacked a customer-orientated strategy (Durkin, McGowan et al. 2013). In the Veterinary Social Media Monitor 2013 veterinarians stated that they found it difficult to shape their social media presence. For example, they found it hard to maintain a continuous flow of high quality posts on their social media (Manten 2014).

For this study, a theoretical framework was constructed. It is assumed that a veterinary practice uses Facebook as a marketing tool to reach a certain goal (e.g. reaching a higher retention rate). To reach this goal, it produces specific content on Facebook in the form of Facebook posts (*marketing strategy*). Research showed that different types of content create different levels of *customer engagement* (Lee, Hosanagar et al. 2014, Yu 2013, Sabate, Berbegal-Mirabent et al. 2014). As discussed before, it is argued that increasing levels of customer engagement will increase *business performance*, e.g. sales growth, cost reductions, more referrals (Hoffman, Fodor 2010, Hollebeek, Glynn et al. 2014, Kumar, Aksoy et al. 2010). Ultimately, the veterinary practice should review and fine-tune its strategy periodically, to adjust it to the needs of its audience (*feedback and learning*). The model is graphically depicted in figure 1.
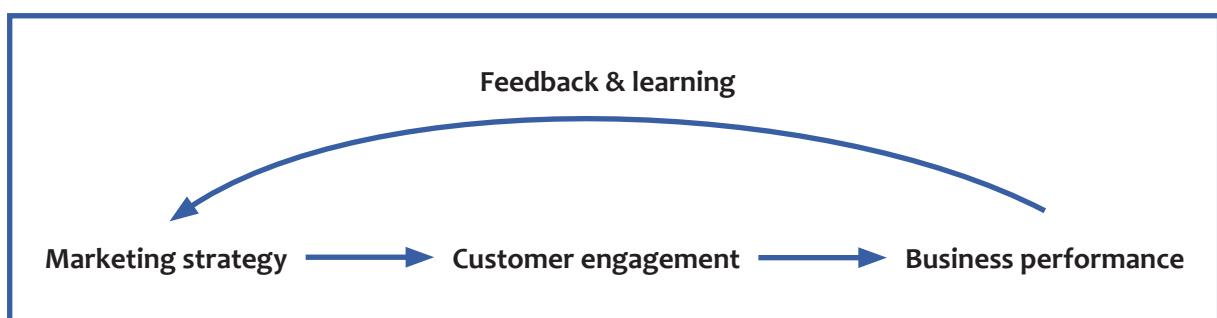

Figure 1: theoretical framework

In this study, CE is defined as the deep, meaningful and long-lasting relationship between a customer and a brand. The proposed model suggests that a marketing input focusing on CE is the key to increasing levels of CE, which in its turn will lead to an increase in business performance. From a business point of view, the effects on business performance are the most interesting to examine, obviously. CE, however, focuses on creating a deep, meaningful and long-lasting relationship. Based on the research of Sashi (2012), it is thought that it might take a substantial amount of time before one can experience monetary benefits from implementing a CE focused marketing strategy.

Therefore, the aim of this study is to examine whether social media can be used to increase customer engagement. If so, they have te potential to be a promising and profitable marketing tool in veterinary practice. This research will be limited to the application of Facebook, since Facebook has the highest penetration rate of all social media sites in the Netherlands and because it is the most commonly used social medium in veterinary practices.

One can imagine several factors that attribute to a marketing strategy. For example, one can post several types of messages, e.g. an advertisement, a veterinary tip or simply just small talk. Another factor is post enrichment. One can choose to enrich Facebook posts with photos, videos or links and one can ask people to leave a comment on the posted content. This leads to the following research question:

Research question 1: What content creates the most customer engagement on Facebook pages of veterinary practices?

As stated before, it is a challenge to measure the exact levels of CE. Searching the available online literature did not produce a clear set of parameters. Some interaction parameters have been used consequently in theoretical and empirical research, namely the number of likes, comments, and shares of Facebook posts, which are all publicly available. The reach of a Facebook post, i.e. the number of people that saw the message at least once, is a parameter that is commonly used in popular Facebook analytics software, too.

Studies of Sabate, Berbegal-Mirabent et al. (2014) and De Vries, Gensler et al. (2012) showed that the addition of a photo or video to a Facebook post has a positive influence on interaction parameters (e.g. likes and comments). The addition of a link had a negative influence. Content containing a question received more comments. Based on these results, the following hypotheses are proposed:

Hypothesis 1: Levels of customer engagement will be higher in Facebook posts that contain a photo than those that do not.

Hypothesis 2: Levels of customer engagement will be higher in Facebook posts that contain a video than those that do not.

Hypothesis 3: Levels of customer engagement will be lower in Facebook posts that contain a link than those that do not.

Hypothesis 4: Levels of customer engagement will be higher in Facebook posts that solicit for comments than those that do not.

Yu (2013) found that consumers engage more with Starbucks' brand posts focusing on community relationship than those focusing on product promotion or corporate information. Lee, Hosanger et al. (2014) concluded that persuasive content (e.g. emotional or philanthropic messages) has a positive impact on customer engagement. Therefore, the following is hypothesized:

Hypothesis 5: Levels of customer engagement will be highest for content focusing on the emotional relationship with the customer.

Hypothesis 6: Levels of customer engagement will be lowest for content focusing on the promotion of goods and services.

Not only is it interesting to know what content has the potential to create the most customer engagement, but it is also interesting to know whether veterinary practices are able to put this information into practice. Therefore, the second research question is:

Research question 2: Do veterinary practices that use Facebook with a marketing strategy focused on customer engagement create higher levels of customer engagement than veterinary practices that don't use such a marketing strategy?

Based on the theoretical framework, the following is hypothesized:

Hypothesis 7: Veterinary practices that use Facebook with a marketing strategy focused on customer engagement have a higher average amount of likes per Facebook post than veterinary practices that do not use such a marketing strategy

Hypothesis 8: Veterinary practices that use Facebook with a marketing strategy focused on customer engagement have a higher average amount of comments per Facebook post than veterinary practices that do not use such a marketing strategy

Hypothesis 9: Veterinary practices that use Facebook with a marketing strategy focused on customer engagement have a higher average amount of shares per Facebook post than veterinary practices that do not use such a marketing strategy

Hypothesis 10: Veterinary practices that use Facebook with a marketing strategy focused on customer engagement have a greater average reach per Facebook post than veterinary practices that do not use such a marketing strategy

METHODS

Procedure

A pilot study was conducted using Facebook pages of seven participants. The time frame necessary to yield a satisfactory amount of Facebook posts per practice was investigated. The pilot study indicated that collecting messages from a period of six months would be appropriate. The last twenty Facebook posts of the seven participants were analysed by the first author (BR) and one of the other authors (NM). Their findings were used to adjust and complement a framework, based on the research of Yu (2013), to divide Facebook messages into several message categories (appendix A).

Messages posted in a six month period on Facebook pages of all participants (n = 50) were then collected for analysis. The day it was posted, the number of likes, comments, and shares and the presence of enrichments were registered for each message. The last twenty messages of each participant were categorised.

Individual Facebook posts were valued on CE, using the level of interaction (i.e. number of likes, comments, and shares) to form a 'message engagement score' (MES). This score was used as a basis to select the ten participants scoring highest ('top ten') and the ten participants scoring lowest ('bottom ten') on CE. By adding all individual message engagement scores, a total engagement score was calculated per veterinary practice. The average message engagement score was determined for each participant, too. It was argued that participants had to score high/low on both their total engagement score as well as their average message engagement score. The reason for this is because some practices scored very high on their average message engagement score, but posted only a few messages during the analysed period (e.g. seven messages in six months), thus having a low total engagement score. Other practices posted messages with a relatively low message engagement score, but since they posted large numbers of messages (e.g. 150, which was more than three times the average) they still tended to score high on total engagement. Therefore, practices were ranked based on their total engagement scores, first. Those scoring above average (n = 22) and those scoring below average (n = 28) were then ranked based on their average message engagement scores. In the former group the ten practices with the highest average message engagement scores were selected as the top ten practices. In the latter group the ten practices scoring lowest on average message engagement scores were selected as the bottom ten practices.

A questionnaire (Appendix B) was designed to distinguish participants that do use a marketing strategy focusing on CE from those that do not. The questionnaire was designed using the online software of SurveyMonkey (SurveyMonkey Inc. 2015). One veterinary practice (not a participant) and both the other authors (NM and RvdB) pilot tested the questionnaire for being comprehendible and unambiguous. Based on their input several adjustments were made.

Participants classified as the top ten and bottom ten were selected to fill out the questionnaire. The veterinary practices were contacted by phone. The aim of the study and the questionnaire were explained to the employee responsible for the Facebook page. The employee was asked to fill out the questionnaire on the internet and to send a copy of their Facebook statistics (Facebook Insights) of the analysed period. If the employee agreed on filling out the questionnaire, it was sent by e-mail. Participants were asked to finish the questionnaire within two weeks.

Participants of the questionnaire received points for every answer indicating that the practice had a strategy in general and for every answer indicating that the practice focused on customer engagement. Based on their score, they were divided in three groups: *clearly using a CE focused marketing strategy*, *unclear whether using a CE focused marketing strategy or not*, or *clearly not using a CE focused marketing strategy*.

Participants

Fifty Dutch veterinary practices were randomly selected, using the Veterinary Directory 2013 (Van der Kolk, Augustijn et al. 2013). Practices were selected on the basis of the following criteria:

The practice
- focuses on primary care
- only treats companion animals
- has a Facebook page
- has been using that Facebook page since July 1, 2013 or before
- has posted at least one message on its Facebook wall between July 1, 2014 and December 31, 2014

Only veterinary practices for companion animals were chosen, for it was argued that this would ease up analysing the results. Moreover, companion animal veterinary practices make up the majority of all different types (more than 60 percent in 2013) (KNMvD 2013), making it most likely a satisfying amount of pages could be analysed. For every veterinary practice the number of page likes on January 15, 2015 was administrated.

Measures

Facebook post collection

Messages posted on Facebook pages of fifty veterinary practices between July 1, 2014 and December 31, 2014 were manually collected between January 15, 2015 and January 23, 2015. Several data were registered for each message:
- Day of the week it was posted
- Interaction parameters
- Facebook post enrichment
- Message category

Three veterinary practices repeatedly added photos to a specific photo album, resulting in the reappearance of an automatic Facebook post showing the added photos. Facebook automatically summed up the received likes, comments, and shares of all these individual updates, hence making it impossible to score the interaction for each individual post. Therefore, these twenty messages were excluded. In the end, 2461 messages were collected.

Interaction parameters

For each post, the number of times the message was liked (likes), the number of comments on the message (comments) and the number of times the message was shared (shares) was registered. Seven practices gave access to their Facebook statistics, so that the reach of their messages (n = 388) could be analysed, too.

As previously mentioned, individual Facebook posts were valued on CE, using numbers of likes, comments, and shares to calculate a message engagement score. The reach of a Facebook post was not integrated in calculating this score, as information on reach was not accessible at the time. The relative weights of a like, comment, and share were estimated, based on the height of a possible threshold, withholding a person to like, comment or share. The research of Yu (2013) showed that people are more prone to click the like button than to leave a comment or to share a message on Facebook. Thus, it was reasoned that the threshold for liking a post is lowest. Yu's (2013) research showed no difference between the number of comments and shares. For this research, however, it was argued that shares represent more value. Sharing a message could indicate that people not only like the message themselves, but think their friends would like it, too, whereas leaving a comment does not. Since no scientific literature on the exact value or ratio could be found, an arbitrary ratio of 1 : 2 : 3 was chosen for likes, comments, and shares, respectively.

It was argued that messages of practices with a large number of page likes have the potential to receive more likes, comments, and shares than comparable messages of practices with a low number of page likes, simply because more people have a chance to see and thus interact

with them. Therefore, a correction for the number of page likes was applied to the message engagement score.

The message engagement score often tended to be a very small number. For personal convenience the score was therefore multiplied by 100.

$$Message\ engagement\ score\ =\ \frac{(\#\ likes\ x\ 1\ +\ \#\ comments\ x\ 2\ +\ \#\ shares\ x\ 3)}{\#\ page\ likes}\ x\ 100$$

Facebook post enrichment
For each post it was noted if the following enrichments were present or not:

Text
Text posted by the practice itself or readable in a shared post. Hyperlinks were not registered as text, but as a link.

Photo
Photos that are posted by a practice itself, are seen in a shared message or that automatically show up when a link is posted.

Video
Videos that can be viewed on Facebook itself. Links to videos were registered as links.

Link
Links were differentiated in internal links and external links. Hyperlinks referring to media belonging to the practice (e.g. their own website, YouTube account or web shop) were considered internal links. Hyperlinks referring to media not belonging to the practice (e.g. a link to a news article) were considered external links.

Asking for comments
Facebook posts that were written in such a manner that they invited the reader to leave a comment.

Message category
With the results of the pilot study a definitive list of sixteen message categories was compiled (appendix A). Based on the research of Yu (2013), categories were divided into three main groups: product promotion, corporate information, and community relationship.

The last twenty Facebook posts of all participants were analysed by the first author (BR). The two other authors (NM and RvdB) each double-checked one hundred messages. Cohen's Kappa for inter-observer reliability (BR-NM and BR-RvdB) were 0.78 and 0.79, respectively, what was considered satisfactory.

Ten practices posted less than twenty messages in the analysed time frame, resulting in a total of 926 messages.

Questionnaire
The final questionnaire (appendix B) was divided into seven parts.

Part 1: introduction
The introduction explained the goal of this study and ensured anonymity.

Part 2: general information about the veterinary practice
This part, consisting of multiple choice questions, was used to gather general information about the practices, such as the number of veterinarians working at the practice and the number of customers that had visited the practice over the last year.

Part 3: general information about the use of Facebook
In order to develop a general impression about whether the veterinary practice is using a marketing strategy or not, several multiple choice questions were asked about their use of Facebook in general. For example, they were asked if they had specified the goal of their Facebook page in a marketing plan and if they evaluated the use of their Facebook page.

Part 4: current use of Facebook
To clarify the current goal of the veterinary practice, participants were asked why their practice used Facebook. Answers were given on a 5-point Likert scale (totally disagree – disagree – neutral – agree – totally agree). Questions were based on the main groups from appendix A, i.e. *product promotion, corporate information,* and *community relationship.* A fourth group of questions was added, based on the research of Durkin, McGowan et al. (2013). They found that some businesses only use Facebook to not fall behind on the competition.

Part 5: message content
Participants were asked how often they posted questions with a certain content, in order to specify the current strategy they were using to reach their goal. Answers were given on a 5-point Likert scale (never – rarely – sometimes – regularly – often). Questions were based on the message categories from appendix A.

Part 6: message enrichment
The intention of the questions of this part were to specify the current strategy, too. However, these questions focused on the addition of enrichments to posted messages. Answers were given on a 5-point Likert scale (never – rarely – sometimes – often – always). Participants were also given a 'not applicable' answer choice.

Part 7: final remarks
In this last part, participants were given the opportunity to leave their remarks on the questionnaire.

Statistical analysis
Statistical analysis was performed using IBM SPSS Statistics 22 (IBM Corp. 2013).

Facebook post enrichment
The influence of different types of enrichments on the interaction parameters was tested through regression analysis. Model fitness was evaluated using scatterplots of predicted values of the mean of response and standardized deviance residuals. Data was found to be unsuitable for Poisson regression analysis. Therefore, negative binomial regression analysis, which did show proper model fitness, was used.

Numbers of likes, comments, shares, reach, and an uncorrected message engagement score (i.e. not corrected for the number of page likes) were used as dependent variables. The natural logarithm of the number of page likes was used as an offset variable to correct for exposure differences. For each analysis, one enrichment was set as the independent variable, while the other enrichments and the veterinary practices were set as covariates. Differences were considered significant if the 95% confidence interval did not include an incidence rate ratio (IRR) equal to 1.

The most common combinations of enrichments were compared for the levels of all interaction parameters. Negative binomial regression analysis was used again, as it showed proper model fitness. Numbers of likes, comments, shares, reach, and an uncorrected message engagement score were used as dependent variables. The natural logarithm of the number of page likes was used as an offset variable to correct for exposure differences. The combinations were set as independent variable. Text only messages were set as redundant. All single enrichments and the veterinary practices were set as covariates. Differences were considered significant if the 95% confidence interval did not include an incidence rate ratio equal to 1.

All message categories were compared with each other for differences in the levels of the interaction parameters through negative binomial regression analysis, since data turned out unsuitable for Poisson regression analysis. The negative binomial regression analysis did show proper fitness.

Numbers of likes, comments, shares, reach, and an uncorrected message engagement score were used as dependent variables. The natural logarithm of the number of page likes was used as an offset variable to correct for exposure differences. Categories were set as the independent variable, while enrichments and veterinary practices were set as covariates. A Bonferroni correction was applied. Differences were considered significant if the 95% confidence interval (99,667% after Bonferroni correction) did not include an incidence rate ratio equal to 1.

The main groups of message categories were compared for the levels of all interaction parameters, as well. Negative binomial regression analysis was used, since it showed proper model fitness. Numbers of likes, comments, shares, reach, and an uncorrected message engagement score were used as dependent variables. The natural logarithm of the number of page likes was used as an offset variable to correct for exposure differences. The main groups of message categories were set as independent variable. The group of messages focusing on community relationship was set as redundant. Enrichments and the veterinary practices were set as covariates. Differences were considered significant if the 95% confidence interval did not include an incidence rate ratio equal to 1.

Questionnaire
Veterinary practices received points for every answer indicating that the practice has a strategy in general (part 3 of the questionnaire) and for every answer indicating that the practice focuses on customer engagement (part 4, 5, and 6 of the questionnaire). A total of 65 points could be earned. For a detailed scoring form, see appendix C. Based on their scores, practices were divided in three groups. Cut-off scores were chosen arbitrary at 30 percent and 70 percent.

Score ≥ 46   Using a CE focused marketing strategy
Score 20 – 45 Unclear whether using a CE focused marketing strategy or not
Score ≤ 19   Not using a CE focused marketing strategy

Groups were compared for differences in engagement levels using negative binomial regression analysis, which showed proper model fitness. Numbers of likes, comments, shares, reach and an uncorrected message engagement score were used as dependent variables. The different groups were set as independent variable. Differences were considered significant if the 95% confidence interval did not include an incidence rate ratio value to 1.

RESULTS

Participants selection and Facebook posts collection

Of the selected veterinary practices (n = 50), most adopted Facebook between 2011 and 2013 (range 2008 to 2013; mean 2011,7; SD 0,9). The mean number of page likes was 492,5 (range 54 to 1638; SD 336,7). A total of 2461 Facebook posts were collected. On average, practices posted 49,2 messages during the six months analysed period (range 3 to 157; SD 37,0). Most messages were posted during the weekdays (90 percent). Average amounts of the different interaction parameters are shown in table 1. Seven practices gave access to their Facebook statistics, so that the reach of their messages (n = 388) could be analysed, too.

Table 1: mean number of likes, comments, shares, MES, and reach per message per 100 page likes of analysed Facebook posts

	N	Mean	Minimum	Maximum	Std. deviation
Likes	2461	3,68	0	41,78	4,47
Comments	2461	0,73	0	21,24	1,34
Shares	2461	0,74	0	248,65	6,41
MES	2461	7,36	0	790,17	21,05
Reach	388	123,85	6,07	2727,54	225,98

Facebook post enrichment

93 percent of all analysed messages contained text and 87 percent of them contained photos. Other enrichments were far less popular. Links to an external page were added to 12 percent of all messages, other enrichments were added even less frequently. By far the most frequently observed combination of enrichments was text with a photo (61 percent). The mean number of likes, comments, shares, MES and reach per message per 100 page likes for Facebook posts containing a certain combination of enrichments are shown in appendix D.

Table 2 shows a summary of the results of the negative binomial regression analysis of the most observed combinations of Facebook post enrichment. Messages containing just a photo and messages containing a combination of text and another enrichment were compared with text only messages (set as redundant in the analysis). Adding a photo, video or request to leave a comment as a second enrichment had a positive influence on the observed interaction (incidence rate ratio is greater than one), whereas added links had a negative influence on most interaction parameters (incidence rate ratio is less than one).

Table 2: incidence rate ratios for interaction parameters of the most observed combinations of Facebook post enrichment compared to posts containing only text

Type of enrichment	N	Likes	Comments	Shares	MES	Reach
Text only	157	Redundant	Redundant	Redundant	Redundant	Redundant
Photo only	122	1,48**	0,64**	1,32	1,26	1,68
Text & Photo	1495	2,36***	1,84***	2,79***	2,39***	2,20**
Text & Video	101	2,14***	1,75***	0,79	1,78***	1,89*
Text & Photo & Internal link	136	0,76*	0,40***	0,34***	0,64***	1,07
Text & Photo & External link	174	0,60***	0,51***	1,03	0,76*	1,11
Text & Photo & Ask for comments	137	1,87***	4,68***	11,58***	4,68***	2,53**

* p < 0,05; ** p < 0,01; *** p < 0,001

Message category

A total of 926 messages were divided into sixteen message categories (appendix A). These sixteen categories were divided into three main groups, namely *product promotion* (n = 136), *corporate information* (n = 180) and *community relationship* (n = 610). The majority of the analysed messages focused on *community relationship*, mostly through Facebook posts with *interesting patients* (14 percent of all analysed messages) and *veterinary tips or information* (12 percent of all analysed messages). The mean scores on interaction parameters per message per 100 page likes are shown in appendix E and F for the different message categories and main groups, respectively.

A summary of the results of the negative binomial regression analysis of the individual message categories is shown in appendix G. Significant positive incidence rate ratios were found mostly for *business information and achievements* (likes, comments, and MES), *designed question* (comments), *veterinary tips or information* (shares), *interesting patient* (likes and MES), *sharing life experience* (likes and MES), and *animal lost/found or looking for a replacement* (comments, shares, MES, and reach).

Table 3 shows the results of the negative binomial regression analysis of the main groups of message categories. Compared to messages focusing on *community relationship* (set as redundant), incident rate ratio's significantly below one were found for messages focusing on *corporate information* (comments, shares, MES, and reach) and *product promotion* (all interaction parameters). This indicates that these messages are less likely to create interaction on the noted parameters than messages focusing on community relationship.

Table 3: incidence rate ratios for different types of interaction for the main groups of message categories

Main group	N	Likes	Comments	Shares	MES	Reach
Community relationship	610	Redundant	Redundant	Redundant	Redundant	Redundant
Corporate information	180	0,91	0,69***	0,05***	0,62***	0,66*
Product promotion	136	0,56***	0,46***	0,22***	0,44***	0,46**

* p < 0,05; ** p < 0,01; *** p < 0,001

Top ten versus bottom ten veterinary practices

The average year practices adopted Facebook did not differ significantly between both groups. The same was true for the number of page likes and the number of messages posted during the analysed period. Interaction parameters (table 4) tended to be above average for the top ten veterinary practices and below average for the bottom ten practices (i.e. the average based on all fifty participants and all 2461 messages), yet these differences were not significant.

Table 4: mean numbers of likes, comments, shares, MES, and reach per message per 100 page likes for both top and bottom veterinary practices. For comparison, the average based on all fifty participants is presented, too

Veterinary practice	N	Likes	Comments	Shares	MES	Reach
Top	10	5,53	1,22	1,57	13,25	195,06
Bottom	10	2,83	0,53	0,20	4,28	88,80
Average	50	3,68	0,73	0,74	7,36	123,85

Questionnaire

Fifteen questionnaires were returned. All were filled out completely. One participant said the practice's Facebook page was managed by another person during the analysed period. Because it was thought that the answers of this participant may possibly not be representative for the analysed period, these results were excluded, resulting in a response rate of 70 percent.

Of the fourteen questionnaires that were analysed, seven were from top ten veterinary practices and seven from bottom ten veterinary practices. Bottom practices tended to have lower numbers of full-time equivalent employees (figure 2) and were single vet practices more often (71 percent versus 29 percent, respectively).
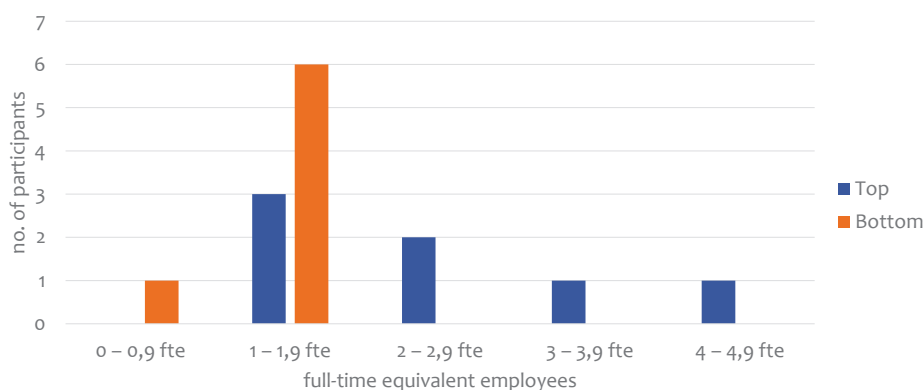
Figure 2: variation in full-time equivalent employees per veterinary practice

Practices' questionnaire scores are presented in table 5. Part three of the questionnaire focused on whether veterinary practices were using a marketing strategy on Facebook in general. Parts four to six focused on the specific marketing strategy a veterinary practice used. None of the practices showed a clear strategy focusing on CE. One of the seven top practices and three of the bottom practices showed no CE focused strategy. No significant differences were found between top and bottom practices for questionnaire scores.

Table 5: questionnaire scores and interpretation per veterinary practice
T: respondent belonging to the top 10; B: respondent belonging to the bottom ten

	Use of a strategy (max. 12)	Current goal (max. 16)	Message categories (max. 27)	Message enrichments (max. 10)	Total (max. 65)	Interpretation
T1	6	6	12	2	26	Unclear
T2	3	7	12	1	23	Unclear
T3	5	6	10	5	26	Unclear
T4	3	2	7	2	14	No CE focused strategy
T5	3	7	11	4	25	Unclear
T6	6	6	11	5	28	Unclear
T7	7	3	11	1	22	Unclear
B1	3	12	13	8	36	Unclear
B2	10	11	14	5	40	Unclear
B3	2	2	6	2	12	No CE focused strategy
B4	2	9	15	8	34	Unclear
B5	7	1	5	4	17	No CE focused strategy
B6	6	14	19	4	43	Unclear
B7	3	4	5	2	14	No CE focused strategy

Table 6 shows responses on the questions whether practices specified their goal and how to use their Facebook page. As can be seen, top practices did not use a marketing plan for either of these. Of the bottom practices, one used a marketing plan to specify both. One other did specify the goal in a marketing plan, but only discussed the concrete use. One respondent did not know whether the goal was specified or not. When asked what their goal was, practices answered that improving their local brand awareness (n = 3), sharing customer service related messages (n = 2), sharing promotions (n = 2) and improving the customer relationship (n = 2) were most important.

Table 6: responses on whether the goal and how to use the Facebook page are specified

	Top (n = 7)	Bottom (n = 7)
Goal		
Marketing plan	0	2
Discussed	3	1
Not specified	3	4
How to use		
Marketing plan	0	1
Discussed	5	3
Not specified	2	3

DISCUSSION

Facebook post enrichment

The presence of photos or videos had a significant positive influence on most interaction parameters. This outcome corresponds to findings in previous research (Lee, Hosanagar et al. 2014, Sabate, Berbegal-Mirabent et al. 2014, de Vries, Gensler et al. 2012). These sorts of enrichments probably draw attention to a Facebook post in the Facebook Timeline, thus increasing the likelihood of users interacting with the post. For photos it was found that they were more effective when combined with text. Text often had an explanatory function in these cases. This possibly enhanced the message of the Facebook post, consequently amplifying the positive influence of photos on interaction parameters.

Adding a link, on the other hand, decreased numbers of most interaction parameters drastically, which is in accordance to results of other studies (Sabate, Berbegal-Mirabent et al. 2014). By clicking a link the user leaves the Facebook page and is directed to the designated page. As users leave the Facebook page the risk of not returning to the original post to leave a like, a comment or to share the message probably increases. One should bear in mind that this study only investigated the effects on CE measured through interaction parameters on Facebook. It may be possible that some participants had a different goal with their links, e.g. directing customers to their web shop, aiming for direct monetary results. In that case, the addition of links could directly lead to an improved business performance.

Soliciting for comments appeared to be a very effective way to increase numbers of comments and shares, but not likes. In fact, the number of likes tended to decrease when users were asked to comment, although this result was not significant. As mentioned before, the threshold for users to like a Facebook post appears to be lower than to leave a comment. Results of this study indicate that users probably choose between either liking the Facebook post or leaving a comment, because by asking people explicitly to reply, the average number of comments increased while the average number of likes decreased. The reason for the great positive influence on shares is most likely due to the sharing of the *lost & found* messages. In several of these messages people were asked to reply, too, e.g. if they knew someone to adopt an animal. These types of Facebook posts consequently resulted in extremely high numbers of shares. This probably has had a major influence on the average amount of shares of messages in which users were asked to leave a comment.

Message category

For individual message categories, several significant results were found for the influence on numbers of likes, comments, shares, and the MES. Unfortunately, insufficient numbers of messages were categorised to find possible significant differences in reach for most categories.

Facebook posts containing *business information and achievements*, *interesting patients*, and those that *shared life experiences* were liked most. *Greetings/wishes* and *case reports* were liked often, too. *Designed questions* received most comments, followed by *animal lost/found or looking for a replacement, business information and achievements, sharing life experience,* and *case reports. Animal lost/found or looking for a replacement* messages were shared most by far. *Veterinary tips or information* was shared often, as well. All but one of the before mentioned message categories are those marked as ones that focus on community relationship. Only the category *business information and achievements* is not.

The difference between the categories *business information and achievements* and *sharing life experience* was based on the research of Yu (2013), who studied interaction on the Facebook page of Starbucks. An example of one of Starbucks' business information posts is a post containing information about their business' growth. A post categorised as sharing life experience would focus on e.g. the experience of drinking a coffee at Starbucks. The difference between the two is obvious: the former focuses on Starbucks as a company, whereas the latter focuses on Starbucks as a part of the consumer's life. This difference was not that outspoken in veterinary practices' messages. An example of their messages *sharing life experiences* is a post telling one of the staff members just got a baby. Many of the posts categorised as *business information and achievements*

focused on the life of staff members, too, but on a professional level. The relationship between an animal owner and a veterinary practice's staff will most likely be personal to a certain level. Perhaps pet owners do not make a difference between the sharing of personal and professional life experiences, as long as it concerns the veterinary practice's staff and not the practice as a business. They might interpret both personal and professional life experiences as the sharing of the staff's life experience in general, which could be the reason that *business information and achievements* scored high on several interaction parameters, too.

When message categories were divided into three major groups, it became clear that messages focusing on *community relationship* were most effective in increasing levels of customer engagement. Incidence rate ratios were lowest for *product promotion* on all interaction parameters, thus proving that these types of messages are least effective in increasing levels of customer engagement.

Incidence rate ratios did not differ significantly between *community relationship* and *corporate information* for the number of likes. This is most likely due to the high number of likes that *business information and achievements* messages received. As discussed before, *business information and achievements* messages were probably perceived by users as the sharing of a life experience. In that case, these messages should have been grouped under *community relationship,* as well.

CE focused marketing strategy & interaction parameters
Questionnaire responses indicated that none of the veterinary practices clearly used a CE focused marketing strategy. More bottom than top practices were categorised as those who clearly do not focus on CE, yet this difference was not significant. Whether they use a CE focused marketing strategy remained unclear for most of the respondents.

The findings were unexpected, as it was hypothesized that most top practices would clearly use a CE focused marketing strategy. Therefore, it was argued that practices focus on one of the other presented marketing strategies (i.e. *to not fall behind, product promotion,* and *corporate information*), but mean responses indicated that practices did not favour one strategy over the other. Generally, mean responses were around average for all strategies. Indeed, regarding their current goal on Facebook (part 4 of questionnaire) the mean response of both groups on *product promotion* was relatively higher. Practices did not show a clear preference for messages focusing on *product promotion,* though (part 5 of questionnaire). It might have been possible that the veterinary practices used a totally different strategy, one that was not covered in the questionnaire. For this reason, in the last part of the survey practices were asked whether they felt that a topic was not discussed. However, none of them mentioned that their strategy was missing.

It is peculiar to see that even though the results of this research indicate that focusing on community relationship appears to be the best way to increase CE, none of the practices stated that it focused on these types of messages in particular. Bearing al of the aforementioned in mind and knowing that only one out of fourteen practices used a marketing plan to specify both the goal and the concrete use of Facebook in their practice, it may be questionable whether most surveyed practices used a specific, well thought out marketing strategy at all. Perhaps practices simply do 'what feels right'. This could explain why none of the top practices showed a clear focus on CE, but they still produced high levels of CE. Perhaps top practices unintentionally posted relatively more CE focused content, resulting in high levels of CE without a clearly circumscribed focus on CE. The opposite could be true for the bottom practices, explaining why some of the bottom practices scored more points on having a CE focused marketing strategy than top practices, yet still producing lower CE levels. Unfortunately, insufficient numbers of messages were categorised per practice to prove this theory.

As none of the practices clearly showed a strategy focusing on CE, it was thought that this could have been a result of the selection method of the top and bottom ten practices. Practices were selected based on engagement scores of messages posted between July 2014 and December 2014. They were not specifically asked to fill in the survey based on this period, though, as it was

assumed that current strategies (May 2015) would probably not differ much from strategies during the analysed period. Still, some practices might have changed their approach overtime. On the other hand, it seems unlikely that all practices abandoned a CE focused marketing strategy. Another reason could be that the message engagement scores were calculated incorrectly. Based on the findings in individual message categories, it seems that numbers of likes and comments are highest in posts focusing on the practice and its staff, while users seem to share messages mostly if the Facebook post can be helpful to other animal owners, e.g. to find a missing animal or to warn others for toxicity of chocolate in pets. As CE was described as the deep, meaningful and long-lasting relationship between the customer and the veterinary practice, it could be argued that likes and comments represent levels of CE best in this study, since they seem to represent the appreciation towards the practice best. However, it could still be argued that shares are of greatest value in general, as shares might hold the greatest potential from a business point of view. By sharing a Facebook post with friends, an animal owner can spread the message to people with common interests more effectively.

Nevertheless, the selection of top and bottom practices was reviewed, using a new ratio of 1 : 2 : 1 for likes, comments, and shares, respectively. This did not result in great differences in selected top and bottom practices, as 90 percent of top practices and 70 percent of bottom practices were still selected. This means that participants that were selected for this study as top and bottom practices are an adequate representation, even if shares were given too much weight.

Scoring the questionnaire responses incorrectly could be a third reason for the fact that no significant differences were observed between top and bottom practices. In general both groups tended to give similar responses. This makes it unlikely that incorrect scoring of questionnaire responses is the cause.

A final possibility could be that the wrong cut-off values for questionnaire scores were chosen. It is highly unlikely that this is the cause, though. The four highest questionnaire scores were achieved by participants classified as bottom ten practices. At the same time, of the four lowest scores, three were achieved by the other three participants classified as bottom ten practices that filled out the survey. Thus, the use of different cut-off values probably would have caused a shift in the number of practices within each group (i.e. *clearly focusing on CE, unclear*, and *clearly not focusing on CE*), but it most likely would not have improved the chance on finding significant differences between top and bottom practices in this study.

Strengths and weaknesses
A strength of this study is that the framework to divide messages into several categories was adjusted to the use of Facebook by veterinary practices. Therefore, the results can be interpreted easily and practices can put the information into practice directly. Another strength is that the effects of enrichments were taken into account while investigating the message categories of Facebook posts. This ensures that positive and negative findings are related to the message of the Facebook post itself, instead of e.g. the addition of a photo. A third strength of this study is that it not only analysed the effects on likes, comments, and shares, but on reach as well. Reach has proven to be a useful parameter in this research. Ideally, the sample size should have been bigger, though, as not enough data on reach was collected to produce significant results for message categories. Nevertheless, trends are still visible.

A weakness of this study is that the questionnaire was not pilot tested thoroughly. Ideally, the questionnaire should have been tested on multiple veterinary practices that use a CE focused marketing strategy and those that do not. Based on their responses, the questionnaire could have been adjusted. Moreover, a tailor-made scoring form for questionnaire responses could have been designed. To the authors knowledge no information on veterinary practice's marketing strategy was known at the time, though. Therefore, this was not an option. Alternatively, a similar questionnaire (e.g. for businesses in another branch) could have been used as a template. Unfortunately, such a questionnaire was not found in the existing literature.

CONCLUSIONS

The first research question focused on what content stimulates customer engagement on Facebook pages of veterinary practices best. The addition of a photo or video to a Facebook post and the enhancement of this message through text resulted in high levels of customer engagement, especially if one solicited for comments, too. The addition of a link to a Facebook post, on the other hand, turned out to have a negative influence on levels of customer engagement. Thus, hypothesis 1, 2, 3, and 4 are accepted.

Messages focusing on *community relationship* were found to have the highest levels of customer engagement, while those focusing on *product promotion* scored lowest. Therefore, hypothesis 5 and 6 are accepted. Personal and professional *life experiences, interesting patients, case reports* and *designed questions* received many appreciation in the form of likes and comments. Messages that can be helpful to other pet owners, i.e. *lost & found messages* and *veterinary tips and information*, were shared most often.

The second question of this study was if veterinary practices that use Facebook with a marketing strategy focused on customer engagement create higher levels of customer engagement than veterinary practices that do not use such a marketing strategy. Unfortunately, none of the veterinary practices used a CE focused marketing strategy. In fact, none of the veterinary practices appeared to use a specific marketing strategy at all. Therefore, the observed differences in levels of CE between top and bottom practices cannot be attributed to a specific strategy with this research. As a result, hypothesis 7, 8, 9, and 10 cannot be accepted nor rejected.

PRACTICAL IMPLICATIONS

This research has proven that different types of content can produce different levels of customer engagement. It shows that one indeed should focus on the emotional bond with the animal owner and that there are various effective ways to do so. These results provide guidance to veterinary practices in shaping their social media presence, giving them the opportunity to stand out from the crowd.

Much is still unknown, though. Therefore, future research is desirable. Future work should try to determine the most optimal combination of the different messages categories (e.g. which categories should be alternated, at what frequentcy, etcetera). Moreover, one should try to qualify an effect size of such a CE focused marketing strategy. Ideally, qualitative and quantitative effects of higher levels of customer engagement on business performance should be investigated in veterinary practice, too. It would be interesting to know if a dosed use of messages focusing on product promotion can have a significant positive influence on business performance (e.g. because of a direct influence on sales), even though these messages resulted in low levels of customer engagement in this study.

Finally, the results of this study indicate that none of the participants had a specific marketing strategy. Moreover, the majority of the respondents answered that they did not use a marketing plan. As the use of marketing in veterinary practice has been advocated (Molhoek, Endenburg 2009, Gabay, Moskowitz et al. 2014, Vidić V., Savić S., Vidić B., Grgić Ž. 2013), practices are encouraged to write down a marketing plan and implement their social media strategy. Furthermore, they should review the effectiveness of their strategy periodically, to adjust it to their audience. The interaction parameters used in this study can be used by veterinarians to review the effectiveness of their own Facebook messages.

APPENDICES

Appendix A: Facebook post categories, definitions, and examples

PRODUCT PROMOTION		
Product advertising	Promotion of a product or service, either new or existing.	*A tick! Clearly, it is tick season! For cats we now have a new drug available: Broadline, a spot-on product effective on both ticks, fleas and worms!*
Sales promotion	Promotion of a product or service accompanied by an extra offer, e.g. a discount.	*This entire month your pet receives his microchip implant, registration included, for just €25,-.*
CORPORATE INFORMATION		
Business information and achievements	Work-related information about the practice and her employees	*Last Thursday our intern Nisha had her final exam to become a veterinary nurse… and she passed! On behalf of the whole team, congratulations Nisha!*
Customer service and courtesy	Messages focused on customer service and customer courtesy.	*We have different opening hours during the holidays:* *- December 24: open till 4 pm* *- December 25 & 26: closed* *- December 31: open till 4 pm* *- January 1: closed*
Competition	Competition in which customers can win a price (including announcement of the winner). A competition used to promote a product or service will be registered as 'product advertising'	*Do you have a special wish for your pet in 2015? Write down your original message on a beautiful Christmas card, hang it up in our Christmas tree and maybe…*
Philanthropic message	A message in which the practice shows her good will and philanthropy	*With your help we were able to raise €204,87 for the Dutch Animal Cancer Foundation! Thank you for your contribution!*
COMMUNITY RELATIONSHIP		
Greetings or wishes	Personal greetings or wishes	*On behalf of the whole team we wish you a merry Christmas!*
Designed question	A question or quiz, with the intention that customers start commenting.	*We recommend you to vaccinate your rabbit. On this picture you can see why. Do you recognise this disease?*

Veterinary tips or information	Information that can be relevant to pet owners.	*Did you know that chocolate is toxic to dogs? Theobromine can make your dog very sick and he may even die from it. The more cacoa the chocolate contains, the more severe the intoxication will be. The diagram below shows if you have to consult us when your dog has been enjoying chocolate.*
Interesting patient	Interesting, funny or cute patients that have visited the veterinary practice.	*This is Sam! Sam is a five-year-old dachshund who loves his monthly puppy consultation with Britt!*
Case report	Interesting, unique or intriguing case report of a patient that has been treated by the clinic.	*This is Kenzo, a Birman of almost six. Kenzo was brought to our vet Michiel last Sunday because he had regurgitated a piece of string. Since then he had been feeling listless and all he could do was vomiting. (…) After surgical removal of the rest of the string Kenzo was feeling better than ever!*
Sharing life experience	Personal stories and experiences of the veterinary practice and her employees.	*Last Wednesday we've had a group training in the morning, followed by our yearly company outing. We played 'Spelsterrenslag'. That made us extremely hungry, of course. Therefore, we ended the day with a marvelous barbecue. It was a lovely day! With some muscle cramps at the end of the day, maybe…*
Small talk	Short, entertaining messages, e.g. funny news reports, photos or videos of animals, etc.	*Teamwork!!!!! This is how you work as a team. This video of two dogs working together to get their ball out of the water is going viral at the moment.*
Advocacy statement	The veterinary clinic draws attention for a particular (social) problem	*[picture of a dog covering its ears] "Fireworks? Please, think about me, too…"*
Animal lost/found or looking for a replacement	Messages about missing animals, animals that have been found or animals that are looking for a new owner.	*Last night this little cat was brought in (no microchip present). For now she has a place to stay for a while. Do you recognise her? Please contact our clinic.*
Change of profile picture or cover photo	Messages that appear automatically when a veterinary practice changes the profile picture or cover photo of the Facebook page	*Veterinary Clinic A has updated her cover photo*

Deel 1 - Inleiding
Deze enquête over Facebookgebruik door dierenartsenpraktijken maakt deel uit van
mijn onderzoekstage. Dit onderzoek is een onderdeel van mijn master aan de faculteit
Diergeneeskunde van de Universiteit Utrecht, waarbij ik word begeleid door dr. N.J.J.M. (Nicole)
Mastenbroek (Leerstoel Kwaliteitsbevordering Diergeneeskundig Onderwijs van de faculteit
Diergeneeskunde) en drs. R. (René) van den Bos (founder DigiRedo, communicatieadviesbureau
in digitale media). Het onderzoek richt zich op de relatie tussen de manier waarop een
dierenartspraktijk Facebook gebruikt en de effectiviteit van die aanpak. De effectiviteit wordt
bepaald aan de hand van de interactie die op de Facebookpagina plaatsvindt. Met deze enquête
wordt geprobeerd inzicht te verkrijgen in het doel dat uw dierenartsenpraktijk met Facebook
voor ogen heeft en op wat voor manier u dat doel probeert te bereiken.

Opzet
Deze enquête bestaat uit zeven onderdelen. Het invullen neemt ongeveer 15 minuten van uw tijd
in beslag. Indien u het invullen van deze enquête wilt onderbreken, kunt u gewoon afsluiten. Op
het moment dat u weer inlogt, kunt u verder gaan waar u gebleven was.

Anonimiteit
Om de uitkomsten van deze enquête te kunnen koppelen aan de data die via uw Facebookpagina
wordt verzameld, dienen uw antwoorden onder de naam van uw praktijk te worden opgeslagen.
Daarom wordt aan het begin van deze enquête gevraagd om de naam van uw praktijk in te vullen.
Dit heeft enkel als doel om beide datasets (enquête en Facebook) later aan elkaar te kunnen
koppelen. Alleen ikzelf, als eerste onderzoeker, heb inzicht in de ruwe data. Na koppeling van
beide datasets zullen alle gegevens geanonimiseerd verwerkt worden.

Tot slot
Uw medewerking stel ik ten zeerste op prijs. Daarom zal ik u, als u de vragenlijst volledig invult,
na afronding van de onderzoekstage een terugkoppeling sturen over hoe u de effectiviteit van
Facebook in uw praktijk nog kunt verbeteren. Mocht u nog vragen hebben over de enquête, dan
ben ik per email bereikbaar via b.e.w.ruijter@students.uu.nl of telefonisch op 06 12 62 53 29.

Zou u zo vriendelijk willen zijn de enquête binnen twee weken in te vullen?

Alvast bedankt voor uw tijd.

Bart Ruijter

Deel 2 – Algemene praktijkgegevens
1. Wat is de naam van uw praktijk?

2. Uw praktijk is een:
  A. Eenmanspraktijk
  B. Meermanspraktijk
  C. Anders, namelijk…

3. Heeft uw praktijk een praktijkmanager?
  A. Ja
  B. Nee
  C. Anders, namelijk…

4. Hoeveel dierenartsen (omgerekend naar fulltime equivalent, fte) zijn er werkzaam in uw praktijk?
  A. 0 – 0,9
  B. 1 – 1,9
  C. 2 – 2,9 fte
  D. 3 – 3,9 fte
  E. 4 – 4,9 fte
  F. 5 of meer fte

5. Hoeveel unieke klanten bezochten uw praktijk in 2014? Een unieke klant is een klant die uw praktijk in 2014 minimaal 1x heeft bezocht; een klant die uw praktijk in 2014 vaker heeft bezocht, telt dus maar 1x mee.
  A. Minder dan 1000
  B. 1000 – 1999
  C. 2000 – 2999
  D. 3000 – 3999
  E. 4000 – 4999
  F. 5000 of meer
  G. Dit deel ik liever niet

Deel 3 – Algemene informatie Facebookgebruik
6. Is binnen uw praktijk gespecificeerd wat het doel is van de Facebookpagina? Kies het antwoord dat het meest van toepassing is.
  A. Ja, dit staat concreet beschreven in een (marketing)plan
  B. Ja, dit is besproken
  C. Nee, dit is niet gespecificeerd
  D. Weet ik niet
  E. Anders, namelijk…

7. Kunt u dit doel kort omschrijven?

8. Is binnen uw praktijk gespecificeerd hoe de Facebookpagina ingezet wordt (bv. wat voor berichten geplaatst worden, wanneer, door wie, etc.)? Kies het antwoord dat het meest van toepassing is.
  A. Ja, dit staat concreet beschreven in een (marketing)plan
  B. Ja, dit is besproken
  C. Nee, dit is niet gespecificeerd
  D. Weet ik niet
  E. Anders, namelijk…

9. Wordt binnen uw praktijk het gebruik van de Facebookpagina geëvalueerd? Kies het antwoord dat het meest van toepassing is.
  A. Ja, één of meerdere keren per jaar wordt dit besproken tijdens een vergadering
  B. Ja, maar niet op regelmatige basis
  C. Nee, dit wordt niet gedaan
  D. Weet ik niet
  E. Anders, namelijk…

10. Hoeveel personen zijn er hoofdverantwoordelijk voor het beheer van de Facebookpagina? Een hoofdverantwoordelijke is de persoon die bepaalt hoe de Facebookpagina in grote lijnen wordt gebruikt en die toezicht houdt op het gebruik.
  A. 1
  B. 2
  C. Meer dan 2
  D. Wij hebben geen vaste persoon die hier voor hoofdverantwoordelijk is

11. Welke functie(s) heeft/hebben de hoofdverantwoordelijke(n) voor het beheer van de Facebookpagina? (meerdere antwoorden mogelijk)
  A. Praktijkmanager
  B. Dierenarts (eigenaar)
  C. Dierenarts (in loondienst)
  D. Paraveterinair
  E. Anders, namelijk…

12. Hoeveel personen plaatsen er namens de praktijk berichten op de Facebookpagina?
  A. 1
  B. 2
  C. Meer dan 2
  D. Wij hebben geen vaste persoon die hier voor verantwoordelijk is

13. Welke functie(s) heeft/hebben de persoon/personen die namens de praktijk berichten plaatst/plaatsen op de Facebookpagina? (meerdere antwoorden mogelijk)
    A. Praktijkmanager
    B. Dierenarts (eigenaar)
    C. Dierenarts (in loondienst)
    D. Paraveterinair
    E. Anders, namelijk…

14. Heeft/hebben de beheerder(s) van de Facebookpagina specifieke kennis vergaard over het toepassen van Facebook in de dierenartsenpraktijk? (meerdere antwoorden mogelijk)
    A. Ja, middels nascholing
    B. Ja, middels zelfstudie uit boeken, vakbladen of het internet
    C. Nee
    D. Anders, namelijk…

15. Hoeveel tijd wordt er wekelijks gespendeerd aan het up to date houden van de Facebookpagina?
    A. Minder dan 1 uur
    B. 1 tot 2 uur
    C. 2 tot 3 uur
    D. 3 tot 4 uur
    E. 4 tot 5 uur
    F. 5 uur of meer

Deel 4 – Huidig gebruik Facebook
De volgende stellingen gaan over waarom uw praktijk de Facebookpagina inzet. Kunt u aangeven in hoeverre u het eens bent met de volgende stellingen?

Zeer mee oneens – Mee oneens – Neutraal – Eens – Zeer mee eens

16. Onze praktijk gebruikt Facebook…
    - omdat andere praktijken in de omgeving ook een Facebookpagina hebben.
    - om een voorsprong te hebben op praktijken in de omgeving die nog geen
      Facebookpagina hebben.
    - om 'bij de tijd' te blijven.
    - omdat de klant dat van ons verwacht.
    - om nieuwe klanten te trekken.
    - om nieuwe producten en/of diensten onder de aandacht te brengen.
    - om aanbiedingen op producten en/of diensten onder de aandacht te brengen.
    - om andere online media van de praktijk zoals de website, een webshop of een blog te
      promoten.
    - om reclame te kunnen maken.
    - om te kunnen vertellen over werkgerelateerde prestaties van de praktijk en haar
      medewerkers (bv. het behalen van een certificering of het volgen van een nascholing).
    - om te monitoren wat klanten van de praktijk en haar medewerkers vinden.
    - om op klachten te kunnen reageren.
    - om naar de mening van klanten te kunnen vragen.
    - om vragen van klanten te beantwoorden.
    - om de klant van praktische informatie te kunnen voorzien.
    - om te kunnen vertellen over filantropische daden van de praktijk, zoals het steunen van
      een goed doel.
    - om algemene informatie over de praktijk te kunnen communiceren.
    - om op een laagdrempelige wijze met klanten te kunnen communiceren.
    - om veel interactie tussen de praktijk en de klant teweeg te brengen.
    - om veterinaire tips en informatie met klanten te delen.
    - om klanten te vermaken.
    - om de klant een kijkje in het leven van een dierenarts of paraveterinair te geven.
    - om persoonlijke verhalen van medewerkers te vertellen.
    - om de klant aan onze praktijk te binden.
    - om de loyaliteit van klanten te verhogen.

Deel 5 – Inhoud van berichten
De volgende vragen gaan over de inhoud van de berichten die uw praktijk plaatst.

Nooit – Zelden – Soms – Regelmatig – Vaak

17. Hoe vaak plaatst uw praktijk berichten…
- die zich richten op de promotie van producten en diensten?
- met aanbiedingen op producten en diensten?
- om eigen evenementen (puppy party, lezing) onder de aandacht te brengen?
- over prestaties van de praktijk en haar medewerkers, zoals het behalen van een certificering of het volgen van nascholing?
- met praktische informatie voor klanten?
- over een leuke actie waar men aan mee kan doen in de praktijk?
- met een prijsvraag?
- over filantropische daden van de praktijk, zoals het steunen van een goed doel?
- met een begroeting (bv. prettig weekend, vrolijk pasen)?
- met een quiz?
- met veterinaire tips of informatie die nuttig kan zijn voor huisdiereigenaren?
- met een leuke patiënt uit de praktijk?
- met een verslag van een casus uit de praktijk?
- over persoonlijke gebeurtenissen uit het leven van de medewerkers?
- die puur zijn bedoeld om de lezer te vermaken?
- om aandacht te vragen voor een maatschappelijk probleem?
- over dieren die vermist of gevonden zijn of een nieuw baasje zoeken?

Deel 6 – Verrijking van berichten
De volgende stellingen gaan over verrijkingen die u aan berichten op Facebook kunt toevoegen, zoals een afbeelding of een video.

Nooit – Zelden – Soms – Vaak – Altijd – Weet ik niet / Niet van toepassing

18. Als wij een afbeelding in een bericht plaatsen, heeft dat als doel…
- om een product of dienst te promoten
- om praktische informatie te delen
- om te vermaken
- om de aandacht op het bericht te vestigen

19. Als wij een video in een bericht plaatsen, heeft dat als doel…
- om een product of dienst te promoten
- om praktische informatie te delen
- om te vermaken
- om de aandacht op het bericht te vestigen

20. Als we een verwijzende link naar één van onze eigen andere online media plaatsen (bv. website, webshop, blog), heeft dat als doel…
- om een product of dienst te promoten
- om praktische informatie te delen
- om te vermaken
- om de aandacht op het bericht te vestigen

21. Als we een verwijzende link naar een externe website plaatsen (bv. website LICG, nieuwssite), heeft dat als doel…
- om een product of dienst te promoten
- om praktische informatie te delen
- om te vermaken
- om de aandacht op het bericht te vestigen

22. Onze berichten worden zo geformuleerd…
- dat de lezer uitgedaagd wordt om te reageren.

Deel 7 – Tot slot

23. Heeft u nog opmerkingen over het Facebookgebruik door uw praktijk ten aanzien van zaken die niet in deze enquête aan bod zijn gekomen?

24. Heeft nog vragen over of opmerkingen op deze enquête?

Afsluiting

U bent aan het einde gekomen van deze enquête. Hartelijk dank voor uw bijdrage!

Door op 'Gereed' te drukken worden de gegevens verzonden en sluit u de pagina.

Met vriendelijke groet,

Bart Ruijter

Appendix C: detailed questionnaire scoring form

Deel 3	Algemene informatie Facebookgebruik	Punten voor gegeven antwoord(en)				
		A	B	C	D	E
	Is binnen uw praktijk gespecificeerd wat het doel is van de Facebookpagina?	2	1	0	0	?
	Is binnen uw praktijk gespecificeerd hoe de Facebookpagina ingezet wordt?	2	1	0	0	?
	Wordt binnen uw praktijk het gebruik van de Facebookpagina geëvalueerd?	2	1	0	0	?
		A	B	C	D	
	Hoeveel personen zijn er hoofdverantwoordelijk voor het beheer van de Facebookpagina?	2	1	0	0	
	Hoeveel personen plaatsen er namens de praktijk berichten op de Facebookpagina?	2	1	0	0	
	Heeft/hebben de verantwoordelijke(n) voor de berichten specifieke kennis vergaard over het toepassen van Facebook in de dierenartsenpraktijk?	2	1	0	0	

Deel 4	Huidig gebruik Facebook	Punten voor gegeven antwoord op Likert-schaal				
Doel	Onze praktijk gebruikt Facebook…	1	2	3	4	5
to not fall behind	omdat andere praktijken in de omgeving ook een Facebookpagina hebben	o	o	o	o	o
to not fall behind	om een voorsprong te hebben op praktijken in de omgeving die nog geen Facebookpagina hebben	o	o	o	o	o
to not fall behind	om 'bij de tijd' te blijven	o	o	o	o	o
to not fall behind	omdat de klant dat van ons verwacht	o	o	o	o	o
product promotion	om nieuwe klanten te trekken		o	o	o	o
product promotion	om nieuwe producten en/of diensten onder de aandacht te brengen	o	o	o	o	o
product promotion	om aanbiedingen op producten en/of diensten onder de aandacht te brengen	o	o	o	o	o
product promotion	om andere online media van de praktijk - zoals de website, een webshop of een blog - te promoten	o	o	o	o	o
product promotion	om reclame te kunnen maken	o	o	o	o	o
product promotion	om te kunnen vertellen over werkgerelateerde prestaties van de praktijk en haar medewerkers (bv. het behalen van een certificering of het volgen van een nascholing)	o	o	o	o	o
corporate information	om te monitoren wat klanten van de praktijk en haar medewerkers vinden	o	o	o	o	o
corporate information	om op klachten te kunnen reageren	o	o	o	o	o
corporate information	om naar de mening van klanten te kunnen vragen	o	o	o	o	o
corporate information	om vragen van klanten te beantwoorden	o	o	o	o	o
corporate information	om de klant van praktische informatie te kunnen voorzien	o	o	o	o	o
corporate information	om te kunnen vertellen over filantropische daden van de praktijk, zoals het steunen van een goed doel	o	o	o	o	o
corporate information	om algemene informatie over de praktijk te kunnen communiceren	o	o	o	o	o
community relationship	om op een laagdrempelige wijze met klanten te kunnen communiceren	o	o	o	1	2
community relationship	om veel interactie tussen de praktijk en de klant teweeg te brengen	o	o	o	1	2
community relationship	om veterinaire tips en informatie met klanten te delen	o	o	o	1	2
community relationship	om klanten te vermaken	o	o	o	1	2
community relationship	om de klant een kijkje in het leven van een dierenarts of paraveterinair te geven	o	o	o	1	2
community relationship	om persoonlijke verhalen van de praktijk en haar medewerkers te vertellen	o	o	o	1	2
community relationship	om de klant aan onze praktijk te binden	o	o	o	1	2
community relationship	om de loyaliteit van klanten te verhogen	o	o	o	1	2

Deel 5	Inhoud van berichten	Punten voor gegeven antwoord op Likert-schaal				
Strategie	**Hoe vaak plaats uw praktijk berichten…**	**1**	**2**	**3**	**4**	**5**
product promotion	die zich richten op de promotie van producten en diensten?	0	0	0	0	0
product promotion	met aanbiedingen op producten en diensten?	0	0	0	0	0
product promotion	om eigen evenementen (puppy party, lezing) onder de aandacht te brengen?	0	0	0	0	0
corporate information	over prestaties van de praktijk en haar medewerkers, zoals het behalen van een certificering of het volgen van nascholing?	0	0	0	0	0
corporate information	met praktische informatie voor klanten?	0	0	0	0	0
corporate information	over een leuke actie waar men aan mee kan doen in de praktijk?	0	0	0	0	0
corporate information	met een prijsvraag ?	0	0	0	0	0
corporate information	over filantropische daden van de praktijk, zoals het steunen van een goed doel?	0	0	0	0	0
community relationship	met een begroeting (bv. prettig weekend, vrolijk Pasen) ?	0	0	1	2	3
community relationship	met een quiz?	0	0	1	2	3
community relationship	met veterinaire tips of informatie die nuttig kan zijn voor huisdiereigenaren?	0	0	1	2	3
community relationship	met een leuke patiënt uit de praktijk?	0	0	1	2	3
community relationship	met een verslag van een casus uit de praktijk?	0	0	1	2	3
community relationship	over persoonlijke gebeurtenissen uit het leven van de medewerkers?	0	0	1	2	3
community relationship	die puur zijn bedoeld om de lezer te vermaken?	0	0	1	2	3
community relationship	om aandacht te vragen voor een maatschappelijk probleem?	0	0	1	2	3
community relationship	over dieren die vermist of gevonden zijn of een nieuw baasje zoeken?	0	0	1	2	3

Deel 6	Verrijking van berichten	Punten voor gegeven antwoord op Likert-schaal				
		1	2	3	4	5
Strategie	**Als wij een afbeelding in een bericht plaatsen, heeft dat als doel**	**1**	**2**	**3**	**4**	**5**
product promotion	om een product of dienst te promoten	0	0	0	0	0
corporate information	om praktische informatie te delen	0	0	0	0	0
community relationship	om te vermaken	0	0	0	1	2
community relationship	om de aandacht op het bericht te vestigen	0	0	0	1	2
Strategie	**Als wij een video in een bericht plaatsen, heeft dat als doel...**	**1**	**2**	**3**	**4**	**5**
product promotion	om een product of dienst te promoten	0	0	0	0	0
corporate information	om praktische informatie te delen	0	0	0	0	0
community relationship	om te vermaken	0	0	0	1	2
community relationship	om de aandacht op het bericht te vestigen	0	0	0	1	2
Strategie	**Als we een verwijzende link naar één van onze eigen andere online media plaatsen (bv. website, webshop, blog, etc), heeft dat als doel...**	**1**	**2**	**3**	**4**	**5**
product promotion	om een product of dienst te promoten	0	0	0	0	0
corporate information	om praktische informatie te delen	0	0	0	0	0
community relationship	om te vermaken	0	0	0	0	0
community relationship	om de aandacht op het bericht te vestigen	0	0	0	0	0
Strategie	**Als we een verwijzende link naar een externe website plaatsen (bv. website LICG, nieuwssite, etc), heeft dat als doel...**	**1**	**2**	**3**	**4**	**5**
product promotion	om een product of dienst te promoten	0	0	0	0	0
corporate information	om praktische informatie te delen	0	0	0	0	0
community relationship	om te vermaken	0	0	0	0	0
community relationship	om de aandacht op het bericht te vestigen	0	0	0	0	0
Strategie	**Onze berichten worden zo geformuleerd...**	**1**	**2**	**3**	**4**	**5**
community relationship	dat de lezer uitgedaagd wordt om te reageren	0	0	0	1	2

Appendix D: mean scores on interaction parameters for the most observed combinations of Facebook post enrichment

Table 7: mean number of likes, comments, shares, MES, and reach per message per 100 page likes of Facebook posts containing a combination of enrichments

Type of enrichment	N	Likes	Comments	Shares	MES	Reach
Text only	157	1,94	0,41	0,26	3,52	70,10
Photo only	122	2,83	0,28	0,35	4,42	117,72
Text & Photo	1495	4,56	0,80	0,76	8,44	149,81
Text & Video	101	4,13	0,74	0,22	6,28	142,13
Text & Photo & Internal link	136	1,57	0,20	0,10	2,45	61,19
Text & Photo & External link	174	1,22	0,22	0,34	2,67	69,39
Text & Photo & Ask for comments	137	3,62	1,99	2,95	16,46	137,11

Appendix E: mean scores on interaction parameters for individual message categories

Table 8: mean number of likes, comments, shares, MES, and reach per message per 100 page likes of individual message categories

Message category	N	Likes	Comments	Shares	MES	Reach
Product advertising	84	2,21	0,31	0,17	3,34	67,23
Sales promotion	52	3,00	0,43	0,25	4,60	55,30
Business information and achievements	44	8,78	1,46	0,09	11,98	182,92
Customer service and courtesy	91	2,15	0,36	0,03	2,97	50,18
Competition	22	3,96	0,67	0,06	5,49	92,15
Philanthropic message	23	4,68	0,41	0,04	5,62	94,53
Greetings or wishes	46	6,62	1,17	0,03	9,05	111,35
Designed question	29	2,20	2,81	0,04	7,93	44,23
Veterinary tips or information	112	1,90	0,31	1,65	7,45	52,47
Interesting patient	128	8,15	1,01	0,06	10,36	172,21
Case report	57	5,92	1,26	0,27	9,27	119,54
Sharing life experience	73	7,59	1,26	0,06	10,27	146,81
Small talk	76	3,72	0,36	0,08	4,67	92,92
Advocacy statement	17	3,21	0,31	0,24	4,56	118,12
Animal lost/found or looking for a replacement	53	2,12	1,56	8,01	29,27	531,51
Change of profile picture of cover photo	19	3,50	0,18	0,01	3,91	25,73

Appendix F: mean scores on interaction parameters for main groups of message categories

Table 9: mean number of likes, comments, shares, MES, and reach per message per 100 page likes of main groups of message categories

Message category	N	Likes	Comments	Shares	MES	Reach
Product promotion	136	2,51	0,35	0,20	3,82	60,21
Corporate information	180	4,32	0,67	0,05	5,82	89,69
Community relationship	610	4,97	0,95	1,06	10,07	140,10

Appendix G: results of the negative binomial regression analysis for individual message categories

Table 10: incidence rate ratios for the number of likes for each message category. Messages categories in the rows are compared with the categories in the columns. Incidence rate ratios significantly greater than 1 indicate that a Facebook post categorized as the category in the row is more likely to receive a like than a Facebook post categorized as the category in the column. Significant incidence rate ratio's significantly less than 1 indicate the opposite.

	product adv.	sales	bus. info.	cust. service	competition	philanthropy	greetings	question	vet. info.	patient	case report	life exp.	small talk	statement	lost & found
sales	1,35														
bus. info.	3,75***	2,78***													
cust. service	0,89	0,66	0,24***												
competition	1,57	1,16	0,42*	1,77											
philanthropy	2,07	1,54	0,55	2,34*	1,32										
greetings	2,73***	2,02*	0,73	3,07***	1,74	1,32									
question	0,62	0,46	0,16***	0,70	0,39	0,30**	0,23***								
vet. info.	0,88	0,65	0,24***	0,99	0,56	0,43*	0,32***	1,43							
patient	3,05***	2,26***	0,81	3,43***	1,94	1,47	1,12	4,93***	3,45***						
case report	2,32***	1,72	0,62	2,61***	1,47	1,12	0,85	3,75***	2,62***	0,76					
life exp.	3,03***	2,24***	0,81	3,41***	1,93	1,46	1,11	4,90***	3,43***	0,99	1,31				
small talk	1,80*	1,33	0,48**	2,03**	1,15	0,87	0,66	2,91*	2,04***	0,59*	0,78	0,59			
statement	1,79	1,32	0,48	2,01	1,14	0,86	0,65	2,89	2,02	0,59	0,77	0,59	0,99		
lost & found	0,81	0,60	0,22***	0,92	0,52	0,39*	0,30***	1,32	0,92	0,27***	0,35***	0,27***	0,45**	0,46	
photo update	1,89	1,40	0,50	2,13	1,20	0,91	0,69	3,06	2,14	0,62	0,82	0,62	1,05	1,06	2,32

* $p<0,05$; ** $p<0,01$; *** $p<0,001$ ($p<0,00333$; ** $p<0,00067$; *** $p<0,000067$ after Bonferroni correction)

Table 11: incidence rate ratios for the number of comments for each message category. Messages categories in the rows are compared with the categories in the columns. Incidence rate ratios significantly greater than 1 indicate that a Facebook post categorized as the category in the row is more likely to be commented on than a Facebook post categorized as the category in the column. Significant incidence rate ratio's significantly less than 1 indicate the opposite.

	product adv.	sales	bus. info.	cust. service	competition	philanthropy	greetings	question	vet. info.	patient	case report	life exp.	small talk	statement	lost & found
sales	1,45														
bus. info.	4,15***	2,87***													
cust. service	1,02	0,71	0,25***												
competition	2,05	1,42	0,49	2,00											
philanthropy	1,18	0,82	0,29**	1,16	0,58										
greetings	3,73***	2,58**	0,90	3,64***	1,82	3,15**									
question	4,68***	3,23**	1,13	4,57***	2,28	3,95**	1,25								
vet. info.	1,05	0,73	0,25***	1,03	0,51	0,89	0,28***	0,23***							
patient	2,64***	1,83	0,64	2,58***	1,29	2,23	0,71	0,57	2,51***						
case report	3,58***	2,47**	0,86	3,49***	1,75	3,02**	0,96	0,77	3,39***	1,35					
life exp.	3,61***	2,50**	0,87	3,53***	1,76	3,05**	0,97	0,77	3,42***	1,36	1,01				
small talk	1,30	0,90	0,31***	1,27	0,63	1,09	0,35***	0,28**	1,23	0,49**	0,36***	0,36***			
statement	1,48	1,03	0,36	1,45	0,72	1,25	0,40	0,32	1,41	0,56	0,41	0,41	1,15		
lost & found	4,03***	2,79***	0,97	3,94***	1,97	3,40**	1,08	0,86	3,83***	1,52	1,13	1,12	3,11***	2,72	
photo update	0,95	0,66	0,23*	0,93	0,46	0,80	0,26*	0,20*	0,90	0,36	0,27*	0,26*	0,73	0,64	0,24*

* $p<0,05$; ** $p<0,01$; *** $p<0,001$ (* $p<0,00333$; ** $p<0,00067$; *** $p<0,000067$ after Bonferroni correction)

Table 12: incidence rate ratios for the number of shares for each message category. Messages categories in the rows are compared with the categories in the columns. Incidence rate ratios significantly greater than 1 indicate that a Facebook post categorized as the category in the row is more likely to be shared than a Facebook post categorized as the category in the column. Significant incidence rate ratio's significantly less than 1 indicate the opposite.

	product adv.	sales	bus. info.	cust. service	competition	philanthropy	greetings	question	vet. info.	patient	case report	life exp.	small talk	statement	lost & found
sales	2,14														
bus. info.	0,50	0,23**													
cust. service	0,15***	0,07***	0,31												
competition	0,48	0,23	0,97	3,19											
philanthropy	0,28	0,13**	0,56	1,83	0,57										
greetings	0,14**	0,06***	0,28	0,91	0,28	0,50									
question	0,19	0,09**	0,37	1,23	0,39	0,67	1,35								
vet. info.	12,21***	5,70***	24,51***	80,29***	25,20***	43,95***	88,47***	65,40***							
patient	0,28***	0,13***	0,57	1,86	0,59	1,02	2,05	1,52	0,02***						
case report	1,53	0,72	3,07*	10,07***	3,16	5,51*	11,10***	8,20**	0,13***	5,40***					
life exp.	0,23**	0,11***	0,47	1,54	0,48	0,84	1,70	1,25	0,02**	0,83	0,15***				
small talk	0,66	0,31**	1,32	4,33*	1,36	2,37	4,77**	3,52	0,05***	2,32	0,43	2,81			
statement	1,07	0,50	2,15	7,06**	2,21	3,86	7,77**	5,75	0,09***	3,78*	0,70	4,58*	1,63		
lost & found	45,22***	21,12***	90,81***	297,44***	93,36***	162,81***	327,76***	242,29***	3,70***	159,56***	29,54***	193,25***	68,77***	42,16***	
photo update	0,02*	0,01***	0,04	0,14	0,04	0,07	0,15	0,11	0,00***	0,07	0,01**	0,09	0,03*	0,02*	0,00***

* $p<0,05$; ** $p<0,01$; *** $p<0,001$ (* $p<0,00333$; ** $p<0,00067$; *** $p<0,000067$ after Bonferroni correction)

Table 13: incidence rate ratios for the message engagement score for each message category. Messages categories in the rows are compared with the categories in the columns. Incidence rate ratios significantly greater than 1 indicate that a Facebook post categorized as the category in the row is more likely to increase the message engagement score than a Facebook post categorized as the category in the column. Significant incidence rate ratio's significantly less than 1 indicate the opposite.

	product adv.	sales	bus. info.	cust. service	competition	philanthropy	greetings	question	vet. info.	patient	case report	life exp.	small talk	statement	lost & found
sales	1,37														
bus. info.	3,30***	2,41***													
cust. service	0,83	0,61	0,25***												
competition	1,43	1,04	0,43*	1,72											
philanthropy	1,54	1,13	0,47	1,85	1,08										
greetings	2,32***	1,70	0,70	2,79***	1,63	1,51									
question	1,55	1,13	0,47	1,86	1,09	1,01	0,67								
vet. info.	2,37***	1,73*	0,72	2,85***	1,66	1,54	1,02	1,53							
patient	2,53***	1,85**	0,77	3,04***	1,77	1,64	1,09	1,63	1,07						
case report	2,38***	1,74	0,72	2,86***	1,67	1,55	1,03	1,54	1,00	0,94					
life exp.	2,71***	1,98**	0,82	3,25***	1,90	1,76	1,17	1,75	1,14	1,07	1,14				
small talk	1,41	1,03	0,43***	1,70*	0,99	0,92	0,61	0,91	0,60*	0,56**	0,59	0,52**			
statement	1,51	1,10	0,46	1,81	1,06	0,98	0,65	0,97	0,64	0,59	0,63	0,56	1,07		
lost & found	6,78***	4,95***	2,06*	8,14***	4,75***	4,40***	2,92***	4,37***	2,86***	2,68***	2,84***	2,50***	4,80***	4,50***	
photo update	0,99	0,73	0,30***	1,19	0,70	0,64	0,43*	0,64	0,42*	0,39**	0,42*	0,37**	0,70	0,66	0,15***

$* \; p<0,05; \;\; ** \; p<0,01; \;\; *** \; p<0,001 \; (* \; p<0,00333; \;\; ** \; p<0,00067; \;\; *** \; p<0,000067 \text{ after Bonferroni correction})$

Table 14: incidence rate ratios for the reach for each message category. Messages categories in the rows are compared with the categories in the columns. Incidence rate ratios significantly greater than 1 indicate that a Facebook post categorized as the category in the row is more likely to increase the reach than a Facebook post categorized as the category in the column. Significant incidence rate ratio's significantly less than 1 indicate the opposite.

	product adv.	sales	bus. info.	cust. service	competition	philanthropy	greetings	question	vet. info.	patient	case report	life exp.	small talk	statement	lost & found
sales	0,93														
bus. info.	3,44	3,70													
cust. service	0,69	0,74	0,20*												
competition	1,53	1,65	0,44	2,22											
philanthropy	1,41	1,52	0,41	2,05	0,92										
greetings	1,64	1,76	0,47	2,37	1,07	1,16									
question	0,78	0,84	0,23	1,13	0,51	0,55	0,48								
vet. info.	0,89	0,96	0,26	1,29	0,58	0,63	0,54	1,14							
patient	2,57	2,76	0,75	3,73*	1,68	1,82	1,57	3,29	2,88						
case report	2,25	2,42	0,65	3,26	1,47	1,59	1,38	2,88	2,52	0,87					
life exp.	1,79	1,92	0,52	2,59	1,17	1,27	1,09	2,29	2,01	0,70	0,80				
small talk	1,64	1,77	0,48	2,38	1,07	1,16	1,00	2,10	1,84	0,64	0,73	0,92			
statement	1,99	2,14	0,58	2,88	1,30	1,41	1,22	2,55	2,23	0,77	0,88	1,11	1,21		
lost & found	7,58***	8,15***	2,20	10,98***	4,95	5,37**	4,63	9,70*	8,50***	2,95	3,37	4,24*	4,61*	3,81	
photo update	0,53	0,57	0,15	0,77	0,35	0,38	0,32	0,68	0,59	0,21	0,24	0,30	0,32	0,27	0,07**

* $p<0,05$; ** $p<0,01$; *** $p<0,001$ (* $p<0,0033$; ** $p<0,00067$; *** $p<0,000067$ after Bonferroni correction)

EXPLANATORY WORD LIST AND ABBREVIATIONS

CE   Customer engagement, defined as the deep, meaningful and long-lasting relationship between a customer and a brand.

Comments   People can leave a comment on Facebook messages posted by the veterinary practices, but also on comments of other users. People can leave multiple comments on one Facebook post. Every reply counts as another comment.

Facebook post   A message posted on Facebook.

Facebook wall   The home page of one's personal or corporate Facebook page, on which messages can be posted.

Interaction parameters   The number of likes, comments, shares, and reach. The number of likes, comments, and shares were used to calculate a message engagement score (MES). Interaction parameters were used as a measure of customer engagement.

IRR   Incident rate ratio. It is a representation of the relative differences in the incidence at which two events can occur.

Likes   Facebook users can show their appreciation towards a Facebook post by clicking the 'like button'. Every person that clicks this button counts as one like. A user can only give one like per Facebook post.

MES   Message engagement score. It is used in this study as a representation of the total interaction that was evoked by a Facebook post.

Page likes   The number of Facebook users that 'like' a corporate Facebook page. It is the equivalent of the number of friends of a personal Facebook page.

Reach   This number represents the number of people that saw the Facebook message at least once. Thus, users that have seen the message multiple times are only counted once.

Shares   This number represents the number of times that Facebook users have shared the message of the veterinary practice on their personal Facebook page or on the Facebook page of one of their friends.

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