

# Exploring an effective communication strategy for the Facebook brand page “Het Familievarken” with regard to consumer engagement

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Vomitorium by José Luis López Galván (2011)

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## Abstract

“Het Familievarken” is an innovative production system in the porker sector that produces animal friendly meat. The founders of this initiative wanted to create consumer engagement on their Facebook brand page, as this may have positive effects on purchase behaviour. Effective communication is therefore desirable, however it is challenging for the organization to find a balance between communicating the possible ambivalence of animal welfare and tasteful meat. Therefore, the aim of this research was to determine how to communicate this possible ambivalence in consumer motives of the Familievarken effectively in order to gain the most consumer engagement. This study contributes to effective communication on social media in order to stimulate consumer engagement in innovative production systems.

Using the theories of consumer engagement, uses & gratification and brand image determination, the effect of various media values on consumer engagement was studied. An experimental research was performed in which participants were asked to fill out a questionnaire, after they were exposed to a manipulation. In the manipulation participants were randomly assigned to a Facebook page condition: the animal welfare (AW) condition, the tasteful meat (TM) condition, or the mixed (MIX) condition, which was designed from these two motives.

The results suggested that the AW condition was valued more entertaining than the TM condition and the MIX. In addition, brand image was considered most positively in the AW condition, followed by the MIX and the TM condition. The participants were most likely to engage in the AW condition compared to the TM condition. Otherwise, no significant differences were found. Hence, also no ambivalence between the AW motive and TM was found. Although significant differences were present, translated into practice these differences were not that major. On the seven-point Likert scale these differences were not far apart. In addition, significant predictors of consumer engagement were studied. Results showed that brand image value, functional value, entertaining value, and self-concept value were significant predictors of brand page engagement.

In conclusion, minor differences are found between the Facebook conditions in consumer engagement. In addition, ambivalence between the consumer motives of AW and TM seemed not present. Thus, it is suggested to be unimportant to take these underlying motives into account when communicating the Familievarken concept on their Facebook page. In addition, in the Facebook communication strategy of het Familievarken it is advisable to take the impact on peoples' self-concept into account. Moreover, the content needs to radiate a proper brand image, entertainment and functionality, in order to gain the most consumer engagement.

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## 1. Introduction

“Het Familievarken” is an innovative production system in the porker sector that produces animal friendly meat. This initiative has as communication strategy to create consumer engagement before the concept will be introduced to farmers, as consumer engagement is, among others, an important decision factor for a farmer to take the risk to innovate (to an animal-friendly production system) or not (Meijer, Hekkert & Koppenjan, 2008). Consumer engagement can be seen as a manner of consumer support, as this enables the initiative to continue, by giving them a demonstrable grip. If the consumer engagement for a product is high, a profitable investment for the new farmers will be more plausible, as consumer engagement has positive effects on purchase behavior (Hutter, Hautz, Dennhardt & Füller, 2013).

Effective communication about these raising animal friendly initiatives may be decisive in gathering consumer engagement. The need for effective communication is also reflected in the discrepancy of the increased concern about the wellbeing of livestock among consumers (McKendree, Croney & Widmar, 2014; Cornish, Raubenheimer & McGreevy, 2016; Harper & Henson, 2001; Cummins, Widmar, Croney & Fulton, 2016; De la lama et al., 2016; Te Velde, Aarts, Van Woerkum, 2002), while the purchase of animal friendly products stays behind (Te Velde et al., 2002). The annual report of Wakker Dier (2017) showed that the turnover of animal-friendly meat, defined as meat with a welfare quality mark such as Beter Leven, counted only for 14% of the total meat turnover in 2016 in the Netherlands (2015: 12%). This modest percentage is far below the target percentage of 40%.

As many other initiatives, also the Familievarken is incorporating Facebook in their marketing strategy to gain consumer engagement (Escobar-Rodríguez & Bonsón-Fernández, 2017). Facebook, as online medium, offers not only opportunities to engage, but also to discuss and interact, making an active relationship with the brand possible (Greve, 2014).

In communicating this initiative on their Facebook brand page, a challenging interference in communication is found. The Familievarken portrays themselves with an animal friendly initiative, but also communicates that this animal production system ensures a tasteful piece of meat (Het Familievarken, n.d.). Thus, there may be two motives to engage with The Familievarken: engaging with an initiative that produces animal friendly products, or engaging with an initiative that introduces a tasteful piece of meat. “Ambivalence” describes this kind of contradiction people experience in their individual attitudes or beliefs (Thompson, Zanna & Griffin, 1995). Animal welfare versus tasteful meat may be an ambivalence in communication, as in communicating animal welfare, the values of the animal, as a living creature, are taken into account, while in communicating tasteful meat it concerns a dead animal product, marking the hedonic value of enjoying food. This is supported by the finding of Berndsen & Pligt (2003), which found that moral aspects, which included animal welfare as well as hedonic aspects, were prime predictors of ambivalence related to

reduced meat consumption. This ambivalence may also work conflicting in communicating effectively the Familievarken initiative.

When looking at the individual motives, taste is, among others, the most important criteria in purchase decision (Magnusson, Arvola, Hursti, Aberg & Sjoden, 2001). Taken this into account, it is expected that communicating the tasteful meat (TM) motive leads to more consumer engagement compared to communicating the animal welfare (AW) motive. Hill & Lynchehaun (2002) adds that animal welfare motivates consumers to buy, but to a lesser extent than health and environmental concerns.

However, it is possible that consumers match the AW motive with a tasteful product, and therefore communicating both motives may be essential. This is supported by the findings of Harper & Henson (2001) and Schröder & McEachern (2004), which founded that if consumers purchase animal friendly products, the purchase is motivated by the improved taste, and not by the concern of animal welfare.

It is thus unclear in literature if and to what extent the animal welfare and the hedonic value are conflicting values related to meat purchase and consumption. No studies are found with regard to communicating effectively a brand that deals with a possible ambivalence such as animal welfare and tasteful meat. Therefore, the aim of this thesis is to determine how to communicate this possible ambivalence in consumer motives of the Familievarken effectively in order to gain the most consumer engagement. To study this, an experimental research was performed in which one of the three Facebook page conditions was presented to the participants, which were designed from the different consumer motives: AW, TM, or from a combination of these two motives: the mixed condition (MIX). This study contributes to effective communication on social media in order to stimulate consumer engagement in innovative production systems.

## **2. Literature study “Het Familievarken”**

### **2.1. Method**

This literature study aimed to identify the characteristics of the Familievarken system and how this is related to pigs' natural behavior. In addition, with a comparison with the existing housings systems for porkers, the integration of the concept was described. The databases Web of Science, Scopus, Global Search and Google Scholar were used. Many keywords were used to search for relevant information, such as “pigs”, “natural behavior”, “social behavior”, “wallowing behavior” and “defecation behavior”. In addition, the Dutch legislation with regard to animal welfare and the criteria for different housing systems for porkers has been consulted. Furthermore, there is spoken to the founders of the Familievarken to gain more inside information about the Familievarken concept.



## 2.2. The Familievarken initiative: characteristics



Figure 1: Impression of the exterior the Familievarken

The Familievarken farm (figure 1), which will be built in the Netherlands in Boekel in 2018, pays attention to the natural behaviour of pigs, leading to a housing system that is closely related to pigs' habitat in nature. Natural behaviour is defined as "behavioural elements and their sequences that are adaptive, i.e., that have evolved either during the evolution of the species or during its domestication in order to increase the fitness, i.e., the capacity of the individual to survive and spread its genes through producing offspring or supporting relatives" (Spinka, 2006). Providing the opportunity to execute natural behaviour satisfies the needs of animals and stimulates their behavioural development, leading to long-term benefits, such as improved animal welfare and improved proficiency in coping with social and physical challenges (Spinka, 2006). Animal welfare can be defined in multiple ways: in terms of health and biological functioning (Broom & Johnson, 1993), in terms of subjective mental states or feelings (Duncan, 1993), but also in terms of an animal's capacity to behave in a natural way (Rollin, 1993). The following elements characterize the Familievarken housing system, which will meet several natural behaviours (table 1):

Table 1: Characterizing elements of the Familievarken

Element	Meet natural behaviour
Living together in a family	Pigs are social animals, living in herds with a hierarchy.
Sand	Pigs root in the sand to find food, which is part of their exploration behaviour.
Mud	Mud baths regulate pigs' body temperature and create a protective layer against parasites.
Pig toilet	Pigs are clean and need a separate place to defecate and urinate.
Nest room	Sows want to give birth in absence of conspecifics. Sows have the need to build a nest.
Translucent roof	Pigs are shadow animals and susceptible to sunburn, making that they stay in the shadow often. This roof prevents excessive solar radiation.

In the next sections these natural behaviours and how the Familievarken farm will meet these behaviours is described more in detail.

### **2.2.1. Natural social behaviour**

Pigs are social animals. In nature, a herd consists of 2-6 closely related females and their offspring. Assuming that a feral sow gives birth to 3-6 piglets (Náhlík & Sándor, 2003), a herd consist of 6-36 individuals in total. Sexually mature boars live solitary or in all-male groups (Graves, 1984).

In a herd of pigs a stable hierarchy is maintained. If pigs meet unknown conspecifics, they fight intensely until a dominance order has emerged. These fights remain for approximately 24 hours and after 48 hours the hierarchy is settled (Meese & Ewbank, 1973). This hierarchy is maintained by submissive and avoidance behaviour by the pigs lower in social rank (Jensen, 2017).

Sows and their offspring are very attached with each other in the herd. It is obvious that they have a strong bond after farrowing, but also after 10 days when the sow and her litter rejoin the main group, the strong bond remains. At 200 days of age, pigs still tend to sleep and eat together with their moms (Stolba & Wood-Gush, 1984). The bond between the siblings of the litter is also strong, as they have the preference to play with each other instead of with non-siblings (Newberry & Wood-Gush, 1986). These kinds of social interactions with familiar conspecifics play a key role in social learning (Figueroa, Solà-Oriol, Manteca & Pérez, 2013). For example, Figueroa et al. (2013) found that this familiarity enhances the social learning of eating new feed. This social learning increases the probability of survival, as young animals benefit from learning behaviours of experienced animals (Galef & Giraldeau, 2001).

### **2.2.2. Social behaviour at the Familievarken**

In the Familievarken farm multiple herds will be kept, separated by six rosettes. Pigs of different ages will live together in a herd of 45 animals. Although the herd size of 45 animals is slightly larger than in nature, it seems appropriate for their welfare, as Schmolke, Li and Gonyou (2003) concluded that housing growing-finishing pigs in herds up to 80 is not detrimental to their welfare if space allowance is adequate and feed resources are evenly distributed.

Keeping the pigs in family herds facilitates the need to interact with other pigs (e.g. sleep, eat, play). It also provides the opportunity of social learning with familiar conspecifics, which contributes positively to their welfare. By learning from other pigs, social skills can be properly developed (Figueroa et al., 2013). In addition, the Familievarken believes that the young animals build up a good immunity by exposing them to pathogens originated from the older animals.

This approach is in contrast with conventional systems, in which pigs are separated by age to prevent spread of disease between different groups of age. These groups consist of approximately 10-20 animals (Meyer-Hamme, Lambertz & Gauly, 2016; Turner, Horgan & Edwards, 2001), but also large groups (>50) are more and more common (Meyer-Hamme et al., 2016; Samarakone & Gonyou, 2009; Turner, Allcroft & Edwards, 2003; Turner et al., 2001). Due to this subdivision in age groups social learning from older, experienced animals to younger animals is also minimized.

### 2.2.3. Natural rooting behaviour

Pigs are omnivorous and eat almost everything: high-fibre plant materials, but also products of animal origin. To find their food, pigs root. In natural conditions, pigs spend a large part of their active time searching for food. For example, Stolba & Wood-Gush (1989) found that domestic pigs living in a semi-natural environment spent 52% of the daylight period on rooting and grazing and another 23% in locomotion and direct investigation of environmental objects. This exploratory behaviour keeps the pigs up to date about the availability of the resources, which is essential for survival when they are dependent on limited sources of food (Studnitz, Jensen & Pedersen, 2007).

Particle size and texture may be specific key releasers for rooting behaviour, with the preference of substrates that are similar in texture to earth (Beattie et al., 1998).

Rooting behaviour is of high priority in pigs: when pigs kept indoors were given access to earth, they started to root immediately (Day, Kyriazakis & Lawrence, 1995). In addition, thwarting a need such as rooting stimulates the development of abnormal behaviours (Jensen & Toates, 1993), as for example housing in barren pens results in a redirection of the exploratory behaviour towards pen mates (by e.g. tail biting) (Fraser, Phillips, Thompson & Tennessen, 1991). Materials that also contain edible parts may stimulate appetitive foraging behaviour. Especially those materials are most likely to prevent redirection of the behaviour towards penmates (Studnitz et al., 2007).

### 2.2.4. Rooting behaviour at the Familievarken

In the Familievarken farm sand is mixed with edible particles, by a kind of an irrigation system with liquid pulp feed that will be spread through the air (personal communication with Aurik, 2017). This may be a good example of mixed materials that may stimulate appetitive foraging behaviour by the inclusion of edible parts. However, many studies concluded that sand is not the most preferable material for pigs to root. For example, peat, mushroom compost, chopped straw and sawdust are higher in preference rank compared to sand (Beattie, Walker & Sneddon, 1998; Ladewig & Matthew, 1996; van de Weerd, Docking, Day, Breuer & Edwards, 2003). Only bark chips and concrete are studied materials that are considered to be less favourable to root in for pigs (Beattie et al., 1998). Thus, with regard to floor material, the Familievarken can make some improvements.

The Familievarken believes that providing the ability to root in a sand mixture is sufficient as pen enrichment, as this behaviour is close to nature and it concerns a large part of their daily activities. Enrichment materials such as iron chains, straw or jute sacks will not be used, as this is not present in nature, assuming that they do not have the need for this kind of materials (personal communication with Sijpkens, 2018). Bracke et al. (2006) supports this, as compound and straw enrichment materials are most suitable for pigs compared to metal objects, rubber, rope, wood, roughage and substrates. In this study the effect of the enrichment on several behaviours was studied, such as tail and ear biting, aggression and play behaviour. However, the compound materials in this study did not include sand, but straw, hay,



wood, sawdust, mushroom compost and/or peat. Thus, the effect on animal welfare of providing only sand as enrichment material remains questionable.

#### **2.2.5. Natural wallowing behaviour**

Pigs lack sweat glands, apart from on the disc of their snout. Therefore, they roll in the mud, also called wallowing, to cool during hot temperatures (Arey & Brooke, 2006). It is unclear in literature if wallowing contributes to positive welfare. For example, De Greef, Jong-Timmerman, Schouten, ten Hoope & Groenestein (2003) found that wallowing indicates that something is wrong in the environment. On the other hand, there are several reasons to conclude that wallowing does contribute positively to welfare. The mud keeps the skin in good condition, it helps to remove parasites (Arey & Brooke, 2006), it provides relief from heat stress, it protects against sunburn, and it can be seen as pleasurable for the pigs (Bracke, 2011). The need to wallow is that high that in absence of mud, pigs use their own faeces or manure to roll in during hot temperatures (EFSA, 2007).

#### **2.2.6. Wallowing behaviour at the Familievarken**

The Familievarken provides mud to the porkers for wallowing by making parts of the sand bottom wet. If wallowing is beneficial for pigs' welfare remains questionable, but at least the Familievarken provides the opportunity to execute this behaviour.

#### **2.2.7. Natural defecation behaviour**

According to multiple studies, pigs have standard places to urinate and defecate (Buchenauner, Luft & Grauvogl, 1982; van Wageningen, van Mheen & Verdoes, 2004). However, other studies found that pigs only avoid their lying area to urinate and defecate in (Dellmeier & Friend, 1991; Watson, 1984), but all these studies declared that this avoidance behaviour contributes to keeping the shared lying area clean and the delineation of the territory. In semi-natural circumstances, the place to urinate and defecate lies 5 to 15 meters away from the resting place (van Wageningen et al., 2004).

#### **2.2.8. Defecation behaviour at the Familievarken**

In the Familievarken farm pig toilets will be present. At the pig toilet the pig needs to stand on a platter to defecate, where after they get rewarded with a treat. The faeces will be immediately removed to an underground system, leading to less formation of ammonia (personal communication with Sijpkens, 2018). Less ammonia results in less fine dust, where germs might stick to (AgriHolland, 2018). Therefore, the pig toilet may decrease the risk of diseases in the farm, but also in the environment of the farm (Banhazi, 2009; personal communication with Sijpkens, 2018). Next to disease, ammonia has another consequence for pig welfare. Jones, Burgess, Webster & Wathes (1996) found a negative correlation between ammonia contamination in the air and resting, sitting, feeding and foraging behaviour.

In the whole farm, seven pig toilets will be present which will be placed on the borders of the three zones (figure 2). The toilet is accessible from four sides from different zones, leading to a presumably easily accessible pig toilet (personal communication with Aurik, 2017). The toilet facilitates the need of the pigs to urinate

and defecate in a separate area. The distance between the pig toilet and the resting place is still unknown, but based on the literature it is suggested to keep a distance of at least 5 meters between these two areas. This distance is also of importance for the pig because of the vulnerable position during defecating, the so-called 'squat'. According to Plomp (2015), this is the reason why pigs want to have a protected and isolated place during defecating.

### **2.2.9. Natural nest building behaviour**

Building a nest from available vegetation or similar material is a natural behaviour of pre-farrowing sows (Spinka, 2006). Approximately 15 hours before the start of the parturition sows start to build a nest. They make a shallow, elongated pit and use branches and leaves as coverage (Damm, Lisborg, Vestergaard & Vanicek, 2003). The duration and intensity of the nest building depends on internal factors (e.g., sow experience; Thodberg, Jensen & Herskin, 2002) and external stimuli like availability of building material (Damm, Vestergaard, Schroder-Petersen & Ladewig, 2000), space (Damm, Bildsoe, Gilbert, Ladewig, Vestergaard, 2002) and environmental temperature (Burne, Murfitt & Gilbert, 2001).

### **2.2.10 Nest building behaviour at the Familievarken**

At the Familievarken farm, pregnant sows can make a nest in a special nest room, as leading up to parturition sows have the need to isolate themselves from the herd (Damm et al., 2003). Facilitating the nest-building behaviour of sows has a positive effect on the health and welfare of both the sow and the piglets (Algers, 1994). For example, nest-building behaviour is associated with less crushed piglets (Pedersen, Jørgensen, Heiskanen & Damm, 2006), and for sows that are better nest-building performers the mortality rate in piglets until weaning is lower (Cronin & van Amerongen, 1991).

With the sand the sows can make a pit that will function as a nest. The Familievarken believes that sand is sufficient as nesting material, as this is a similar material to what is used in nature (personal communication with Sijpkens, 2018). However, material to cover the pit is absent. As sows have the need to gather nest material (Jensen, 1993), it is advisable to include branch-like material, such as straw.

The pit facilitates finding the nipples by the newborn piglets, which may lead to less crushing by the mother. Sand may also provide grip to the sow to control her movement of rising and lying down. However, the risk of crushing piglets remains questionable, as in comparable open farrowing nests piglet crushing is higher compared with conventional crate systems (Marchant et al., 2000). The provided space in the nest rooms, which is twice as much (15m<sup>2</sup>) compared to conventional systems, should minimize this risk, as the piglets have more space to react on the movements of their mother (personal communication with Sijpkens, 2018). Sufficient space for turning appears to be preferred by sows around the time of farrowing (Philips, Fraser & Thompson, 1992), which will be possible at the Familievarken farm.

### **2.2.11. Natural biorhythm of pigs**

Feral pigs are mainly active at dawn and dusk and in shaded areas, and during daytime they prefer to sleep (Taylor, 2010). The fact that pigs prefer to stay in

shaded areas is assumedly also the reason that the pigs' skin is susceptible for sunburn (Taylor, 2010).

### 2.2.12 Biorhythm of pigs at the Familievarken

Synchronizing the day and night rhythm of the pigs by providing daylight to pigs is seen as a contribution to positive welfare (Winkel, Ellen & Swinkels, 2014). In the Familievarken farm a translucent roof will be built which provides the pigs with filtered daylight (figure 3). With this roof, the pigs are able to follow the natural rhythm of day and night. In addition, due to the filtered light excessive solar radiation leading to sunburned skins is prevented, and the preference for lying in the shade is met.



Figure 2: Translucent roof

## 2.3. The Familievarken in Dutch context

Due to the increased awareness of animal welfare (De Jonge & van Trijp, 2013), more and more animal friendly initiatives are being developed in the Netherlands. To study how the Familievarken distinguishes itself from other initiatives, an overview is made of the existing housing systems for porkers and current initiatives based on increased animal welfare.

### 2.3.1. Conventional system

The conventional porker system has minimal standards for animal welfare. The pigs are kept in different groups: piglets before weaning, piglets after weaning, porkers, gilts, boars and (pregnant) sows. For an average animal of 85 – 110 kg the available space is 0.8m<sup>2</sup>/animal. The floor needs to be at least 40% solid. Water must be available ad libitum, and the feed intake needs to be guaranteed. Outdoor access is not obliged. They need to follow a biorhythm, so minimal 8 hours of (artificial) light (>40 lux) is obliged. Sufficient divers materials need to be present in the pens, for instance a chain in combination with other materials. Physical procedures such as tail docking, castrating and grinding teeth is tolerated. Sows in the last week of gestation are provided with adequate and sufficient nest material and crating the sow is tolerated (RVO, 2018).

Besides the conventional system, there are multiple systems in which animal welfare is upgraded in different ways (table 2):

### 2.3.2. Beter Leven label

De Dierenbescherming (a Dutch animal protection organisation) developed this quality label to support animal friendly products. A distinction is made in quality stars (\*, \*\*, \*\*\*), in which with three stars animal welfare is taken into account the most. With one and two stars, pigs of 85 - 110 kg have 1m<sup>2</sup>/animal of space, whereas with three stars the pigs have 1.3m<sup>2</sup>/animal.



With one star, the floor needs to be for at least 40% solid, whereas with two and three stars it needs to be at least 50%. All pigs with the Beter Leven label are provided with straw as floor coverage. From two stars natural daylight is mandatory. Pen enrichment needs to be available. Enrichment can meet the following criteria: rootable, chewable, degradable, refreshable and edible. With one star, three criteria need to be fulfilled, while with two and three all five criteria must be met. From two stars, procedures as tail docking, castrating and grinding teeth is forbidden, and the pigs have outdoor access (Voedingscentrum, 2018a). Antibiotics are allowed, provided there is a written policy to reduce it, and the dose is below the maximum of the Dutch policy. With one star, sows in the last 48 hours of gestation are provided with a jute sack or straw, and crating the sow is tolerated. With two stars, straw is provided in such a way that the sow is able to pick it up and move it in the last 24 hours. Crating the sow is tolerated for maximum three days. With three stars sows are provided with similar straw as with two stars at the last week of gestation. Crating the sow is accepted for maximum two days. In addition, with three stars, the farrowing pen is secluded (Beter leven, 2018).

### 2.3.3. Free-range system

Compared with the conventional system, the porkers in the free-range system have more space (1.3m<sup>2</sup>/animal). The floors of the pens are 100% solid and covered with straw and roughage to lie down and to root. In addition, the pigs have the availability to go outside. Providing daylight is obliged. Pre-emptive antibiotics and physical procedures such as tail docking are forbidden. Crating the sow is only accepted within 96 hours after giving birth. Free-range pigs are also valued with two stars of the Beter Leven label (Voedingscentrum, 2018b).



### 2.3.4. Organic system

An organic porker housing system is characterized by multiple regulations. The animals need to be maintained most naturally as possible. As with free range, porkers have more space compared to in a conventional system:



1.3m<sup>2</sup> instead of 0.8m<sup>2</sup>. The floor is of at least 50% solid and covered with material to root. They must have the possibility to go outside. Natural daylight needs to be available. Concerning pen enrichment, the five criteria as mentioned earlier need to be met. Animals are fed with organic nutrition, which does not contain antibiotics, medicines or growth promoters. In addition, the pre-emptive use of antibiotics and physical procedures are forbidden. Straw is provided to stimulate nest-building behaviour of pregnant sows. The sows are not locked during parturition. Organic pigs are also valued with three stars of the Beter Leven label (Skal, 2017).

### 2.3.5. Other small-scale initiatives

There are also many other small-scale initiatives, which are focussed on better pig welfare (e.g. Akkervarken, Bosvarken, Stadsvarkens, Mazzelpigs, and many more (Varkens in nood, 2018)). However, these initiatives are not taken into consideration,

as they are very small with no ambition to produce on a large scale, which is the case with the Familievarken.

### 2.3.6. The integration of the Familievarken within the existing systems

Compared to the existing systems is the Familievarken system in the upper part concerning animal welfare (table 2). The pigs have much available space (1.5m<sup>2</sup>/animal). The floor is fully solid, which reduces lameness in pigs (KilBride, Gillman & Green, 2009). The floor is covered with sand to root and to wallow. The pigs can follow their natural day- and night rhythm due to the translucent roof that provides natural light.



Pre-emptive antibiotics and physical procedures are not allowed.

Pregnant sows can make their own choice when they want to use the nest room to build a nest, in which they can give birth without being locked. In addition, adjustments are made to meet the natural behaviours of pigs, as told in the previous section.

However, there are some aspects of the Familievarken that needs some discussion with regard to animal welfare. At the Familievarken farm the pigs do not have the opportunity to go outdoors. Outdoor access provides environmental diversity, allowing the expression of a wide range of behaviour patterns and the reduction of abnormal and aggressive behaviours (Beattie, Sneddon & Walker, 1993). In addition, the fresh air reduces infection pressure (Edwards, 2005). However, outdoor access is also associated with negative aspects for animal welfare. Parasitism may be greater when pigs have outdoor access, and thermal stress may be present due to the fluctuating temperatures (Edwards, 2005). In addition, pigs are quickly stressed, making outdoor access, with many impressions and stimuli, not preferable for them. Thus, whether outdoor access is beneficial for pig welfare remains questionable.

Also sand as flooring material needs some attention. Sand is uneven and heavy to walk through, possibly leading to lameness. However, as sand is not a common flooring material for pigs, no studies are found about this relationship. In cows sand is extensively studied as flooring material, from which can be concluded that sand is the most preferable flooring material when it comes to lameness and injuries (Barker, Wright, Blowey & Green, 2007; Cook, Bennett & Nordlund, 2004; van Gastelen, Westerlaan, Houwers & van Eedenburg, 2011). This may be explained by the ability of sand to cushion and conform. In addition, the grip sand provides may prevent slippage and injuries during rising or lying down (Cook, 2003). Based on these studies it is assumed that sand is also a proper flooring material for pigs.

Lastly, as told in the previous section, improvements can be made with regard to the choices to meet the natural behaviours of pigs. Sand is provided to build a pit for the nest, but coverage material such as straw is absent and thus is recommended. In addition, the risk of crushing piglets in the Familievarken nest remains questionable. It also remains unclear if only providing sand is optimal as enrichment material.



**Table 2. Minimum standards per system. \*Criteria: rootable, chewable, degradable, refreshable, edible.**

	Available space (m2/pig)	Floor	Floor coverage	Outdoor access	Light	Pen enrichment	Pre-emptive antibiotics	Physical procedures	Nest building
<b>Conventional</b>	0.8	>40% solid	No	No	Artificial	Sufficient	Yes	Yes	Sufficient material; crating
<b>Beter leven *</b>	1.0	>40% solid	Yes	No	Artificial	Meet 3/5 criteria*	Yes	Yes	48h jute/straw; crating
<b>Beter leven **</b>	1.0	>50% solid	Yes	Yes	Natural	Meet 5/5 criteria*	Yes	No	24h usable straw; 5d crating
<b>Beter leven ***</b>	1.3	>50% solid	Yes	Yes	Natural	Meet 5/5 criteria*	Yes	No	24h usable straw; 2d crating
<b>Free-range</b>	1.3	>100% solid	Straw	Yes	Natural	Rooting	No	No	Straw, crating max. 96h
<b>Organic</b>	1.3	>50% solid	Yes	Yes	Natural	Meet 5/5 criteria*	No	No	Straw, no crating
<b>Familievarken</b>	1.5	100% solid	Sand	No	Natural	Rooting	No	No	Sand, no crating

### 3. Theoretical framework and hypotheses

Two studies are describing a framework of consumer engagement on Facebook brand pages. Jhan & Kunz (2012) describe a framework that suggests three reasons to engage in a brand page: social connection, individuals' interests, and self-presentation. In addition, Greve (2014) describes brand image as a determinant of brand page engagement. However, these theories were only tested among current brand page members. As this thesis will focus on developing innovative production systems, new members were studied. At this moment, consumer engagement with the Familievarken Facebook page amongst new members is barely present: over the six months the page exists, the page received 400 likes, which is, according to the Facebook statistics of the Familievarken account, growing very minimal with approximately one like per week.

To study the consumer engagement of the Familievarken page, an adapted version of the framework of Jahn & Kunz (2012) and Greve (2014) will be used, which consists of the uses and gratification theory (Katz, 1959) consumer engagement (Van Doorn et al., 2010) and brand image determination (Greve, 2014). From these theories it is derived that a higher functional value, entertaining value, social interaction value, brand interaction value, self-concept value and a stronger brand image may lead to a higher fan page engagement (Jahn & Kunz; Greve, 2014). In this thesis these values are referred with media values (figure 4).

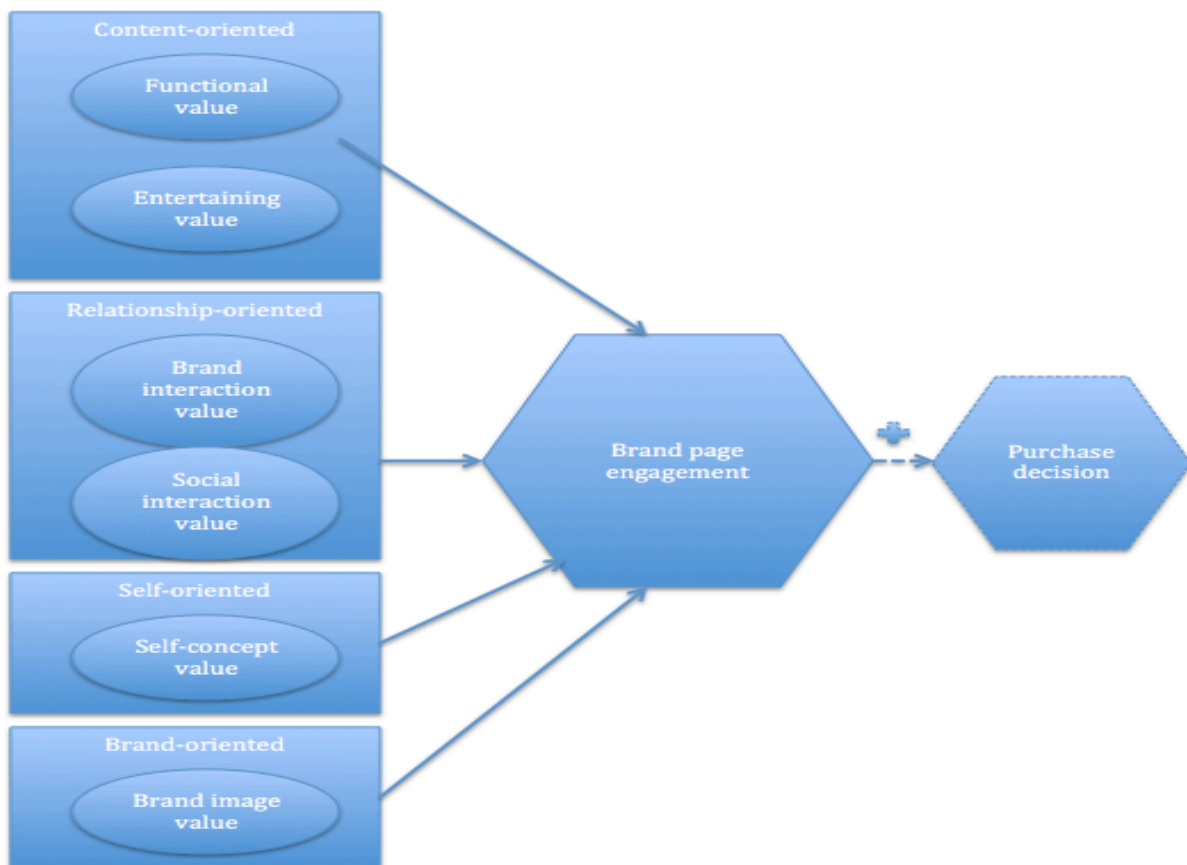


Figure 4: Theoretical model: integration of media values from theories of Jahn & Kunz (2012) and Greve (2014).

According to the uses and gratification theory, a message cannot influence a person who has no 'use' for it in a social and psychological context. It is determined by people's values, interests, associations and social roles and what people select to these interests (Katz, 1959). People use media to satisfy needs for communication, which can be divided in three areas (Jahn & Kunz, 2012):

- Content-oriented: information delivering by media. Differentiation between functional and entertaining value, as information and entertainment play most important roles for social media users;
- Relationship oriented: social interaction with others. Growing and maintaining relationships are major motivations for using a social networking site;
- Self-oriented area: needs of individuals such as achieving status, portray an image about themselves, or need for diversion. Facebook pages can serve the purpose to portray the own self-concept.

Online consumer engagement is defined as "a cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer mediated entities designed to communicate brand value" (Mollen & Wilson, 2010). Consumer engagement goes beyond purchase, resulting from motivational drivers such as consumer-to-consumer interaction and posting activity (Van Doorn et al., 2010), which may be reflected in the three areas of satisfying needs for communication. It is based on the existence of consumers' interactive experience with a brand (Brodie, Hollebeek, Juric, Illic, 2011). Taken this brand focus into account, also brand image is added as a determinant to fan page engagement (Greve, 2014). It reflects the direction and degree to which the brand is in a consumers' mind (Park, Macinnis, Prieser, Eisingerich & Iacobucci, 2010). Brand image may predict behaviors of interest to firms, including brand consideration and brand choice (Raggio & Leone, 2007).

The 'liking' behavior is assumed to be a good determinant of consumer engagement on the Facebook brand page, as 'liking' a page is a consequence of a motivational state that leads to a heightened involvement in online brand activities, which encompasses consumer engagement (Baldus et al., 2015). By pressing the 'like' button, users can become a follower of the Facebook page, which is an easily observable consumer response that allows measuring consumer engagement objectively and uniformly across different consumers (Tafesse, 2016). This indicates to their network that they like this brand, as this brand is added to their profiles. For followers new content of the Facebook page is directly visible in their personal Facebook news feed (Jahn & Kunz, 2012). This way of consumer engagement has powerful implications as it can translate into favorable brand outcomes (Jahn & Kunz, 2012). The amount of Facebook followers reflects the scale of the audience and is a raising marketing tool to reflect public support to externs (Hays, Page & Buhalis, 2013). It is the most prevalent form of public support on social media (Hays et al., 2013). There is a positive effect from becoming a follower on word-of-mouth, brand image, consumer loyalty and sales (Woisetschläger, Hartleb & Blut, 2008).

As mentioned in the introduction, communicating the Familievarken can originate from (a combination of) two motives: the AW motive, or the TM motive, which may have a different effect on the liking behavior of the participants.

Therefore, it is hypothesized that:

*H1a: The AW condition leads to a lower functional value compared to a TM condition of the Familievarken.*

The functional value reflects the usage experience of the brand page (Hirschman & Holbrook, 1982). The functional value of a tasteful piece of meat is quite straightforward: it delivers a high quality nutritional product, which functions as an essential nutrient for the human body. Animal welfare has only indirect effect on the consumer. In the first instance, animal welfare contributes to the well-being of the porker, which consequently, through an improved quality of the meat, contributes to the well-being of the consumer. Therefore, the functional value may be higher in communicating the TM motive compared to the AW motive.

*H1b: The AW Facebook condition leads to a lower entertainment value compared to the TM condition of the Familievarken.*

Entertainment is a significant predictor of using Facebook (Tewksbury & Althaus, 2000), which is expected to be mostly present in the TM motive. In the TM motive the hedonic enjoyment of food may play a major role as entertainment value. People may get excited while reading recipes or by looking at images of tasteful food. In the AW motive entertainment may be less relevant. Looking at images of animals having a good live may be entertaining, but the focus may be more on sympathy: it requires a high level of empathy and emotional expenditure towards the animal of the consumer. It stimulates the consumer to imagine how porkers can be treated and it may give consumers a satisfying feeling to contribute to the well-being of animals. However, the values of the consumers may be decisive in what they perceive as entertaining or not.

*H2a: The AW Facebook condition leads to a higher brand interaction value compared to the TM condition of The Familievarken.*

Many consumers first discover and value the functional and symbolic benefits of a brand before they engage in the brand page. If someone can identify with the brand, it facilitates the feeling of 'belong' to and interacting with the brand community. Stronger identification with the brand community then leads to a greater brand page engagement (Algesheimer, Dholakia & Herrmann, 2005). Communicating the AW or the TM motive portrays a different image of The Familievarken with which consumers need to identify with. If a consumer has a great brand interaction value depends on personal interests and desires. It is expected that more consumers can identify themselves with an initiative focused on animal welfare compared with an initiative focused on tasteful meat, due to the increased concern of animal welfare nowadays. However, individual variation may be expected, as also a trend is found to the importance of enjoying food (Mohsen, 2017).

*H2b: The AW Facebook condition leads to a lower social interaction value compared to the TM condition of The Familievarken.*

Growing, maintaining and broadening relationships to others are main motivators to engage in a Facebook brand page. With this, participants are able to dispel their loneliness, to meet like-minded others, and to receive companionship and social support (Dholakia, Bagozzi & Pearo, 2004). The social interaction value of communicating the TM motive may be higher as it offers more opportunities to communicate: people can interact about their experiences with tasteful food, recipes can be exchanged and discussions can arise about food TV series or blogs. The social interaction value of the AW motive may be more limited, as only can be speculated about what is going on in society in the animal welfare-related area.

*H3: The AW Facebook condition leads to a higher self-concept value compared to the TM condition of The Familievarken.*

Another motivation to participate on a Facebook brand page is because participants expect an impact on their image or status (Jahn & Kunz, 2011). In addition, with adding your profile and postings to the brand page your image is portrayed (Peluchette & Karl, 2009). As with the AW motive participants may have a strong feeling of 'doing something good for the animals', the impact on their image or status may be more positive compared to participating in a brand page about tasteful meat. The TM motive may even hamper the participation, as people do not want to portray their self-concept with this motive, due to the raised consciousness in society about eating meat (Harper & Henson, 2001).

*H4: The AW Facebook condition leads to a more positive brand image compared to the TM condition of The Familievarken.*

Again, in communicating the AW motive, creating a positive image may be more triggered as the brand page communicates that they are 'doing something good for the animals'. The TM motive does not carry an underlying reason of contributing to a better world in any aspect. However, individual differences may be expected due to variable values of individuals.

*H5: The AW Facebook condition leads to a decreased consumer engagement in the brand page of The Familievarken compared to the TM condition.*

Following the theoretical framework, it is expected that the higher the values of the determinants, the higher the consumer engagement. As shown in the above-mentioned hypotheses, variable effects of the AW and TM motive may be expected on consumer engagement. Based on the framework of Jahn & Kunz (2012), the functional value, entertainment value and social interaction value has the highest correlation with consumer engagement compared with the brand interaction value and the self-concept value. Greve (2014) found that the relation between brand image value and consumer engagement is weak. Thus, as in hypotheses 1a, 1b and 2b the relations may have a higher impact compared to hypotheses 2a, 3, and 4, it is expected that the TM motive will lead to more consumer engagement compared to



the AW oriented motive. The expected enlarged engaged consumers in the TM motive may lead to an increased amount of purchases (Hutter et al., 2013).

*H6: AW and TM are ambivalent values in communication, which will lead to less consumer engagement if communicated together.*

As the AW and TM motive originates from different, and probably in communication contradicting rationales, it is expected that communicating these motives together will be inefficient for gathering consumer engagement. Due to this ambivalence, a decision needs to be made from which motive to communicate. Berndsen & Pligt (2003) supports this hypothesis, as animal welfare and hedonic aspects seems to be main factors of ambivalence related to reduced meat consumption, as mentioned in the introduction.

## 4. Method

### 4.1. Design

The experiment used a between-subject design in which the Facebook page condition was the manipulation factor. There were three groups: participants were presented either the AW-oriented Facebook condition, or the TM-oriented condition, or the mixed (MIX) condition, which consisted of aspects of AW as well as TM.

The measured variables were the media values functional value, entertaining value, brand interaction value, social interaction value, self-concept value and brand image value, and brand page engagement. The Facebook condition was the independent variable.

The questionnaire was provided in Dutch, which is presented in appendix 1. In the questionnaire, parts of the Facebook timeline of the Familievarken were presented as Facebook conditions, assuming that this part of a Facebook page is the most important piece in determining to engage with the page or not. The three conditions (AW, TM and MIX) were made with the aid of existing information of the Facebook page of the Familievarken and inside information from the founder of the Familievarken. Microsoft Powerpoint 14.6.3 was used to design the conditions (appendix 2).

It was decided to only include status and photos on the pages, as these forms of media are causing the highest level of engagement compared to links and videos (Cvijikj & Michahelles, 2014).

### 4.2. Participants

261 Dutch citizens participated in the experiment. Everyone with Internet access was allowed to fill in the questionnaire, which was provided online via the website Qualtrics. Data of participants that suggested unanswered questions was excluded from the analysis to prevent extreme variances. Data of 255 questionnaires remained (N=255).

### 4.3. Procedure

The questionnaire consisted of a pre-test, followed by the manipulation and a post-test.

The pre-test measured participants' personal values in purchasing or eating pork. Although the interest of the experiment lies in the individuals' values of AW and enjoyment of taste, also the healthiness of food and environmental awareness were added as scales, to prevent that the participants were steered towards animal welfare or tasteful meat as an important value before starting the experiment. Healthiness of food and environmental awareness were chosen as additional scales as these are the two most important criteria in purchase decision according to the study of Hill & Lynchehaun (2002). In addition, it was asked if the participant was familiar with the Familievarken concept.

Subsequently, participants were randomly assigned to one of the three Facebook page conditions. Randomization over the questions of the pre-test was important, as personal values and familiarity may influence the manipulation. For example, a participant that values enjoyment of taste as important will answer questions differently compared to a participant that values animal welfare of high priority. 88 Participants were presented with the AW condition, 87 participants with the TM condition, and 80 participants with the MIX condition.

In the post-test statements were presented about the presented condition. For each statement, participants needed to fill in their answers on a multiple scale of four items (see 4.4. Measures). In addition, questions about buying pork and eating pork habits (amount of buying/eating during lunch/eating during dinner per week) and demographics (gender, age, education, province) were asked.

### 4.4. Measures

The questions were answered on a seven-point Likert scale (1: strongly disagree – 7: strongly agree). A seven-point Likert scale was chosen because it is most accurate (Johns, 2010) and reliable (Colman, Norris & Preston, 1997) compared to higher or lower scale points. For each media value of the theoretical framework (figure 4) a statement with associated items were presented. These statements and items were based on validated statements and items in the studies of Jahn & Kunz (2012) and Greve (2014), and comparable standards were found in multiple other studies (Baldus, Voorhees & Calantone, 2015; Harrigan, Evers, Miles & Daly, 2017; Hollebeek, Glynn & Brodie, 2014; Paruthi & Kaur, 2017). The statements and associated items that measured the media values are presented in table 3 (translated from Dutch to English).

**Table 3. Statements, associated items and Cronbach's alpha of the measured media values**

	<b>Statement</b>		<b>Items</b>	<b><math>\alpha</math></b>
Functional value	This	Facebook page is...	-Useful; -helpful; -functional; -practical	.93
Entertaining value	This	Facebook page is...	-Fun; -exciting; -pleasant; -entertaining	.87
Brand interaction value	At this	Facebook page I have the feeling that I...	-Can interact-; -can communicate-; -can give feedback-; -can get answers-from/with people of the Familievarken	.95
Social interaction value	At this	Facebook page I have the feeling that I...	-Can meet people-; -can meet new people-; can know more of people-; can interact with people-; like me	.95
Self-concept value	Through this	Facebook page I can...	-Make a good impression on others; -improve the way I am perceived; -present others who I am; -present others who I want to be	.94
Brand image value	The Familievarken	is...	-Good; -Positive; -Nice; -Promising	.93
Self-concept value	Through this	Facebook page I can...	-Make a good impression on others; -improve the way I am perceived; -present others who I am; -present others who I want to be	.94
Brand page engagement	I would...		-Press the Like button of this Facebook page; -follow this page; -see updates on my timeline of this page; be kept actively informed about this concept on Facebook	.95

$\alpha$ =Cronbach's alpha

#### 4.5. Analysis

The questionnaire was statistically analyzed using the statistics programme SPSS version 25. During the analysis the answers gathered from the Likert scale were considered as interval variables.

First, with the aid of a one-way ANOVA test (and a Kruskal-Wallis test for the value "animal welfare", as non-normality was noticed by the homogeneity of variances test), it was concluded that the randomization of the conditions amongst the participants, based on the questions of the pre-test, was succeeded, as no significant differences were found in answers of the questions of the pre-test amongst the participants of the Facebook page condition groups. In addition, from the one-way ANOVA test (and a Chi-square test for "gender" and "province", as non-normality was noticed by the homogeneity of variances test) it could also be concluded the eat- and purchase habits and demographics were evenly distributed (appendix 3).

Thereafter, the multiple items of the statements were averaged to one item, as Cronbachs Alpha was considered to be appropriate (table 3). With the aid of one-way ANOVA tests significant differences amongst the different conditions in the media values were analyzed. In addition, hierarchal regression analyses were performed to study the predictors of brand page engagement for the Facebook page conditions. Dummy variables were made for the categorical variables gender, education, province, and familiarity. The baselines of the dummies were based on the majorities of the variables, which were the groups female, HBO, Zuid-Holland and unfamiliar. Before running the hierarchal models, potential confounders associated with brand page engagement were examined for each model. If a confounder contributed significantly ( $p < .05$ ) to brand page engagement, the confounder was maintained in the analysis as a covariate, as presented in table 4. Demographic information and purchase and eating habits were not included in the model due to no significant contribution.

**Table 4. Used hierarchal models per Facebook condition**

<b>Condition</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
AW	Personal values	Familiarity	Media values
TM	Familiarity	Media values	
MIX	Personal values	Media values	

## 5. Results

### 5.1. Sample

Looking at the sample characteristics (table 5), of the 255 participants, the mean age of the participants was 33 years, with the youngest participant being 14 and the oldest being 78 years of age. 82% was female and 16% was male. The majority of the participants had a higher education degree (Dutch HBO) (31%), a master degree or higher (21%), or went to community college (Dutch MBO) (21%). Most of the participants originated from the provinces Zuid-Holland (26%), Noord-Brabant (22%), and Gelderland (17%). On average, participants bought pork in the supermarket for 1.44 times a week ( $SD=1.69$ ). Pork was eaten 1.61 times a week during dinner ( $SD=1.57$ ). In purchasing or eating pork, they valued tasty food as most important decision factor ( $M=6.00$ ,  $SD=1.25$ ).

**Table 5: Sample characteristics (N=255)**

		<b>N (%)</b>	<b>M (SD)</b>	<b>Range</b>
Age			33.00 (15.1)	14-78
Gender	Female	210 (82)		
	Male	41 (16)		
	Can/will not say	4 (2)		
Level of education	Master or higher	53 (21)		
	Bachelor	35 (14)		
	HBO	79 (31)		
	MBO	53 (21)		
	High school	32 (13)		
	No education	3 (1)		
Province	Zuid-Holland	66 (26)		
	Noord-Brabant	56 (22)		
	Gelderland	42 (17)		
	Utrecht	22 (9)		
	Noord-Holland	21 (8)		
	Groningen	10 (4)		
	Friesland	10 (4)		
	Limburg	9 (4)		
	Overijssel	7 (3)		
	Drenthe	7 (3)		
	Zeeland	3 (1)		
	Flevoland	2 (1)		
Amount of times /	Buying pork in		1.44 (1.69)	0-7
week	supermarket			
	Eating pork during lunch		0.89 (1.55)	0-7
	Eating pork during dinner		1.61 (1.57)	0-7
Values of importance	Animal welfare		5.69 (1.33)	1-7
in choice of pork	Tasty food		6.00 (1.25)	1-7
	Healthy food		5.17 (1.56)	1-7
	Environment		5.01 (1.57)	1-7

## 5.2. Familiarity

Familiarity was associated with all media values ( $p < .05$ ), except self-concept value ( $p = .10$ ). The participants who were familiar with the Familievarken (18%) showed no significant differences in the media values amongst the conditions, while participants that were unfamiliar with the concept (82%) did (appendix 4). For the further analysis it was decided to not make a distinction in familiarity and thus analyze the data all the participants, as in practice a Facebook page always need to deal with people which are unfamiliar as well as familiar with the concept.



### 5.3. Effect of manipulation: Facebook conditions

Examination of the manipulation (table 6) showed no difference in functional value amongst the Facebook conditions, whereby hypothesis 1a is rejected. The entertaining value was higher in the participants that were presented with the AW condition compared to people that were presented with the TM condition (AW:  $4.53 \pm 1.22$ , TM:  $3.94 \pm 1.21$ ,  $p=.00$ ) and the MIX condition (AW:  $4.53 \pm 1.22$ , MIX:  $4.08 \pm 1.08$ ,  $p=.04$ ), which is not in line with H1b.

**Table 6: Means (M), standard deviations (SD) and significance levels (p) of media values amongst the different conditions**

	Condition	M	SD	p
Functional value	AW	4.81	1.37	AW-TM .10
	TM	4.41	1.35	AW-MIX .42
	MIX	4.56	1.18	TM-MIX .73
Entertaining value	AW	4.53	1.22	AW-TM .00
	TM	3.94	1.21	AW-MIX .04
	MIX	4.08	1.08	TM-MIX .73
Brand interaction value	AW	4.90	1.39	AW-TM .99
	TM	4.91	1.33	AW-MIX .97
	MIX	4.86	1.37	TM-MIX .96
Social interaction value	AW	3.60	1.62	AW-TM .18
	TM	3.18	1.45	AW-MIX .56
	MIX	3.35	1.54	TM-MIX .75
Self-concept value	AW	3.22	1.52	AW-TM .15
	TM	2.80	1.42	AW-MIX .97
	MIX	3.27	1.47	TM-MIX .10
Brand image value	AW	5.58	1.03	AW-TM .00
	TM	4.62	1.37	AW-MIX .04
	MIX	5.11	1.24	TM-MIX .03
Brand page engagement	AW	3.82	2.02	AW-TM .02
	TM	3.07	1.65	AW-MIX .14
	MIX	3.28	1.83	TM-MIX .74

In addition, hypothesis 2a, 2b and 3 cannot be confirmed as no differences were found in brand interaction value, social interaction value, and self-concept value amongst the Facebook conditions. In line with H4, brand image value was higher in participants of the AW condition compared to the TM condition (AW:  $5.58 \pm 1.03$ , TM:  $4.62 \pm 1.32$ ,  $p=.00$ ; AW:  $5.58 \pm 1.03$ , MIX:  $5.11 \pm 1.24$ ,  $p=.04$ ), and also participants of the MIX condition valued the brand image value higher compared to participants of the TM condition (MIX:  $5.11 \pm 1.24$ , TM:  $4.62 \pm 1.32$ ,  $p=.03$ ). Moreover, participants of the AW condition scored higher in brand page engagement compared to participants of the TM motive (AW:  $3.82 \pm 2.02$ , TM:  $3.07 \pm 1.65$ ,  $p=.02$ ), which is not in line with H5.

Overall, results show that the AW condition leads to a higher entertaining value, brand image value and brand page engagement, but do not show a difference in functional value, brand interaction value, social interaction value, and self-concept value, compared to the TM condition.

In addition, as stated in H6, ambivalence in communication between AW and TM cannot be confirmed, as no significant differences were found in brand page engagement between the AW/TM conditions and the MIX condition (table 6).

#### 5.4. Predictors of Facebook brand page engagement

According to the results of table 7, the personal values in purchasing and eating pork explained 17% of the variance in brand page engagement in the AW condition. Only the value tasty food predicted significantly brand page engagement. When familiarity was added, together they explained 19% of the variance of brand page engagement. As familiarity is marginally significant, it contributed to this variance. Together with the media values of the theoretical model, the model explained 65% of the variance in brand page engagement.

Furthermore, in the third model, brand image value ( $\beta=.31$ ,  $p=.01$ ) showed the strongest association with brand page engagement, followed by functional value ( $\beta=.27$ ,  $p=.02$ ) and self-concept value ( $\beta=.27$ ,  $p=.03$ ). Although the personal value tasty food contributed significantly to the variance of brand page engagement in the previous models, they were no longer associated significantly with brand page engagement in the final model.

Table 7: Hierarchal regression analysis of predictors of brand page engagement in the AW condition.

	$\beta$	t	p	$R^2$
<b>Model 1</b>				
Value = animal welfare	0.21	1.85	0.07	.17
Value = tasty food	0.23	2.22	0.03	
Value = healthy food	-0.07	-0.57	0.57	
Value = environment	0.23	1.67	0.10	
<b>Model 2</b>				
Value = animal welfare	0.22	1.95	0.06	.19
Value = tasty food	0.22	2.15	0.04	
Value = healthy food	-0.05	-0.39	0.70	
Value = environment	0.17	1.18	0.24	
Familiarity = yes	0.22	1.95	0.06	
<b>Model 3</b>				
Value = animal welfare	0.11	1.36	0.18	.65
Value = tasty food	-0.03	-0.33	0.74	
Value = healthy food	-0.05	-0.58	0.56	
Value = environment	0.02	0.19	0.85	
Familiarity = yes	0.09	1.22	0.23	
Functional value	0.27	2.45	0.02	
Entertaining value	-0.06	-0.54	0.59	
Brand interaction value	-0.01	-0.09	0.93	
Social interaction value	0.11	0.96	0.34	
Self-concept value	0.27	2.18	0.03	
Brand image value	0.31	2.88	0.01	

$\beta$  = standardized regression coefficient, t = t-value, p = significance level,  $R^2$  = coefficient of determination

According to the results of table 8, familiarity explained 9% of the variance in brand page engagement in the TM condition. Together with the media values of the theoretical model, the model explained 57% of the variance in brand page engagement.

This table shows that in this model, entertaining value ( $\beta=.21$ ,  $p=.05$ ) and brand image value ( $\beta=.26$ ,  $p=.05$ ) were the values with significant influence on brand page engagement. Although familiarity contributed significantly to the variance of brand page engagement in model 1, it was no longer associated significantly with brand page engagement in the final model.

**Table 8: Hierarchal regression analysis of predictors of brand page engagement in the TM condition.**

	$\beta$	t	p	$R^2$
<b>Model 1</b>				
Familiarity = yes	0.29	2.83	0.01	.09
<b>Model 2</b>				
Familiarity = yes	0.10	1.24	0.22	.57
Functional value	0.01	0.11	0.91	
Entertaining value	0.21	2.00	0.05	
Brand interaction value	0.15	1.65	0.10	
Social interaction value	0.11	0.87	0.39	
Self-concept value	0.20	1.77	0.08	
Brand image value	0.26	1.98	0.05	

$\beta$  = standardized regression coefficient, t = t-value, p = significance level,  $R^2$  = coefficient of determination

**Table 9: Hierarchal regression analysis of predictors of brand page engagement in the MIX condition.**

	$\beta$	t	p	$R^2$
<b>Model 1</b>				
Value = animal welfare	0.07	0.55	0.59	.18
Value = tasty food	0.31	2.87	0.01	
Value = healthy food	-0.22	-1.84	0.07	
Value = environment	0.35	2.42	0.02	
<b>Model 2</b>				
Value = animal welfare	0.09	0.91	0.37	.63
Value = tasty food	0.04	0.50	0.62	
Value = healthy food	-0.19	-2.22	0.03	
Value = environment	0.19	1.82	0.07	
Functional value	-0.03	-0.31	0.76	
Entertaining value	0.32	3.38	0.00	
Brand interaction value	0.02	0.20	0.84	
Social interaction value	0.05	0.37	0.72	
Self-concept value	0.23	1.96	0.05	
Brand image value	0.34	3.27	0.00	

$\beta$  = standardized regression coefficient, t = t-value, p = significance level,  $R^2$  = coefficient of determination

Table 9 shows that the personal values in purchasing and eating pork explained 18% of the variance in brand page engagement in the MIX condition. Only the values tasty food and environment predicted significantly brand page engagement. When the media values of the theoretical model were added, together they explained 63% of the variance of brand page engagement.

This table shows that in this model, entertaining value ( $\beta=.32$ ,  $p=.00$ ) and brand image value ( $\beta=.34$ ,  $p=.00$ ) showed the strongest association with brand page engagement, followed by the personal value in purchasing or eating pork healthy food ( $\beta=-.19$ ,  $p=.03$ ) and self-concept value ( $\beta=.23$ ,  $p=.05$ ). Although the personal values tasty food and environment contributed significantly to the variance of brand page engagement in model 1, they were no longer associated significantly with brand page engagement in the final model.

## 6. Discussion

### 6.1. Scientific contribution and validation

From the founders of the Familievarken concept the question was raised how to communicate their concept on Facebook, which differentiates itself from other concepts with increased animal welfare as well as with an improved taste of the meat. The right balance of communicating about the animal welfare and tasteful meat was a challenge for the organization, as it sounds conflicting. No studies were found on how to deal with such ambivalence in communication. Therefore, the aim of this study was to determine how to communicate this possible ambivalence in consumer motives of the Familievarken effectively in order to gain the most consumer engagement. This study contributes to effective communication on social media in order to stimulate consumer engagement in innovative production systems.

By measuring various media values this study investigated the effect of communicating the Familievarken concept from the animal welfare (AW) motive, the tasteful meat (TM) motive, and the mixed (MIX) motive on consumer engagement. It was hypothesized that communicating from the TM motive leads to more consumer engagement compared to the AW motive. In addition, ambivalence between these communicative motives was hypothesized due to potential conflicting values in AW and TM. Moreover, it was studied which media values predict consumer engagement. This made it possible to determine important media values to take into account in communicating the Familievarken from the Facebook brand page.

#### 6.1.1. Effect of manipulation on consumer engagement

The results showed that in the AW Facebook condition the participants were more likely to engage with the Facebook page in comparison with the TM condition, which is in contrast with the hypothesis. The hypothesized higher consumer engagement in the TM condition was mainly based on the hypothesized higher entertainment value and social interaction value in the TM condition. Which is in line with Jahn & Kunz (2012), who argue that these values were highest correlated with consumer engagement compared to functional value, brand interaction value, and self-concept value. In addition, also other literature was found with regard to the used media

values in relation with consumer engagement. Baldus et al. (2014) suggested that comparable variables of entertaining value, brand and social interaction value, and self-concept value are significant predictors of the intention to participate on a brand page. Greve (2014) adds to the discussion that brand image is a significant predictor of page engagement.

Indeed, the results of this research suggest that brand image value is a stable predictor of brand page engagement, which did not come unexpected, as this concept reflects how a consumer thinks about the brand in general (Greve, 2014). Next to that, the relation between entertainment and consumer engagement is supported in this study, as it is a significant predictor of consumer engagement in the TM and MIX condition.

Moreover, within one or more Facebook conditions, functional value, brand image value, and self-concept value turned out to be additionally related with consumer engagement in this study. Brand image was, as hypothesized, significantly valued higher in the AW condition than in the TM condition. This seemed also to be the case for self-concept value, although this argument is statistically insignificant. Taken this into account, it is more obvious that in the AW Facebook condition participants were more likely to engage with the Facebook brand page compared to the TM condition.

In contrast, social interaction, as well as brand interaction, turned out to have no significant relation with consumer engagement in this study. An explanation for this finding may be that participants were presented with a 'static' Facebook example, in which interaction was not possible, while Facebook brand pages are normally interactive channels (Jahn & Kunz, 2012).

Important to note is that, although a significant difference was found in consumer engagement between the AW and TM condition, these results should be interpreted with some nuance. This significant difference was found using a seven-point Likert scale, leading to a difference that may be considered small in practice. For example, a significant difference of a score of 3.82 and 3.28 both translates itself to a value between "slightly disagree" and "neutral". So, in practical sense, no major difference is found in consumer engagement amongst the Facebook conditions. This is also applicable to the significant difference in brand image value.

#### **6.1.2. Effect of manipulation on entertaining value**

Another result of this study that requires some discussion is that the AW condition was significantly valued as more entertaining compared to the TM condition, which is not in line with hypothesis 1b. As mentioned in this hypothesis, the values of the consumers may cause what they perceive as entertaining or not. Apparently, animal welfare is valued more entertaining than tasteful meat, which is not in line with the used own perception of entertainment to underpin the hypothesis. Values of consumers vary widely, which is also found in the study of Duijvesteijn, Bernard, Reimert & Camerlink (2014). For example, animal scientists considered pigs as significantly more handsome compared to urban citizens. It thus seems challenging to estimate how people value a Facebook page, with regard to entertainment, but this also counts for other media values, such as functional value and brand image.



However, the suggestion that the differences may not be major in practice due to measuring on a seven-point Likert scale, also counts for this result.

### **6.1.3. Ambivalence**

No differences between the MIX condition and the AW/TM condition in consumer engagement were found, whereby ambivalence between the AW and TM motive is not shown. This is in line with the study of Harper & Henson (2001), who suggested the non-existence of ambivalence between animal welfare and taste with regard to purchase decision. These authors found that consumers purchase animal friendly meat because of the improved taste. However, Schröder & McEachern (2004) do mention ambivalence with regard to animal welfare in meat consumption. On the one hand, consumers as citizens support the notion of animals having a good life. On the other hand, consumers as meat consumers avoid the cognitive connection with the live animal. When this is interpreted in this study, the interest in TM may be more from the meat consumers role, while the interest in AW may be more from the citizens role. According to Schröder & McEachern (2014), the suggested strategy to deal with this ambivalence is to suppress thoughts about all production systems while purchasing meat. Thus, although perceptual ambivalence with regard to meat may be present, it seems not to affect consumers' purchasing behavior. Perhaps this may also be the case in dealing with this ambivalence in consumer engagement.

### **6.1.4. Predictors of consumer engagement**

When looking deeper into the predictors of consumer engagement on the Facebook brand page of the Familievarken, thought-evoking differences in predictors are found amongst the Facebook conditions. In the AW condition, brand image value, functional value, and self-concept value were significant predictors of brand page. In contrast, in the TM condition this counted for entertaining value and brand image value, and in the MIX condition it were entertaining value, brand image value, self-concept value and the personal value healthy food.

In the AW condition, functional value significantly predicts brand page engagement, while in the TM and MIX condition this is not the case. This may be explained by the fact that controlling for animal welfare lies beyond the power of consumers. By presenting the AW condition, consumers become aware that there is attention to animal welfare. Since the decision of choosing for tasteful meat lies in the own power of the consumer, it may be less functional to read about this: the news value is considered lower.

The finding that the entertaining value significantly predicts consumer engagement in the TM and MIX condition, while this is not the case in the AW condition, may be explained by the hedonic enjoyment of food, as explained in H1b. Noteworthy is the finding that entertaining value is valued significantly higher in the AW condition compared to the TM condition, but it has not been shown that this contributes to brand page engagement.

Self-concept value predicts brand page engagement in the AW and MIX condition, and not in the TM condition. Apparently, participants did not desire to relate their image with engaging with the Familievarken in the TM condition, while they did in the AW and MIX condition. This is not surprising, because, as

hypothesized, the feeling of 'doing something good for the animals' in the AW condition (and for a less amount also in the MIX condition) may portray a more positive image of yourself compared to portraying yourself as eating meat.

## **6.2. Strengths and limitations**

This study extends existing knowledge on consumer engagement by demonstrating the effectiveness of communicating using a Facebook brand page from different motives. In addition, this study differentiates itself from other studies by using a complete Facebook brand page instead of individual Facebook messages, and by focusing on people that were still unknown with a certain Facebook brand page. Due to a real-life experiment with a large sample size the internal validity of this experiment can be considered as high. Another strength of this research is the use of reliable and valid measures.

A limitation of this study is the questionable representativeness of the Facebook brand page conditions to mimic a real Facebook brand page. As mentioned earlier, interaction was not possible in the Facebook conditions, which is one of the principles of Facebook. This may have affected the perception of the participants. In addition, due to practical considerations the presented Facebook conditions were limited to the timeline, which included three messages. Normally, a visitor of a Facebook brand page is able to scroll down through all the messages, and to visit the other subpages (e.g. info, pictures, messages), before deciding to engage with the Facebook brand page. Although it was assumed that the timeline was the most important piece in the decision making process to engage with the page or not, the limited information may have caused confusion and unanswered questions, leading to less differences in, or even other results compared to when a real Facebook brand page was presented. Therefore, outcomes of this study should be used with some caution, as it did not fully represent the situation of the 'real' Facebook.

Moreover, to make the differences amongst the Facebook conditions as big as possible, not only the motive changed, but also the content of some messages. As participants of the different conditions were presented with different information, this may also have affected the results.

In addition, males were underrepresented compared to females, which may affect the generalizability of the findings. In addition, participants' opinion was measured subjectively and may therefore be subject to social desirability bias or memory impairments (Mulder, de Bruin, Schreurs, van Ameijden, van Woerkum, 2011).

A last limitation is that, although using the Likert scale as an interval variable is common practice, it may have affected the legitimacy of the outcomes (Jamieson, 2014), as for example it cannot be guaranteed that participants see the difference between "agree" and "strongly agree" in the same way as the difference between "agree" and "neutral" (Bertram, 2007).

## **6.3. Recommendations for the Familievarken**

Considering the results of this study, multiple recommendations for the communication of the Facebook brand page of the Familievarken can be inferred. No major differences were found in practice in consumer engagement amongst the Facebook conditions. In addition, ambivalence between communicating from the

animal welfare motive and the tasteful meat motive was not found. These results suggest that people do not value the underlying motives as important in engaging with a Facebook brand page. Therefore it seems to be unimportant to take these underlying motives into account in communicating the Familievarken concept on their Facebook brand page.

Moreover, the brand image the Familievarken communicates should be taken into account in order to gain much consumer engagement, as this is a stable predictor of brand page engagement in all three Facebook conditions. In addition, the Facebook page must deliver entertaining or interesting content to its fans. Lastly, in communicating content on the Facebook brand page the impact on peoples' image or status should be taken into account to encourage consumer engagement.

#### **6.4. Recommendations for further research**

This study was limited to the Familievarken initiative and studied only the AW and TM motives. Therefore, this study may not be considered representative for all existing Facebook brand pages. More research is required to study possible ambivalences in communication on Facebook brand pages in other specific industries, using other motives. With regard to the Familievarken, it seems valuable to study this subject further using the healthy food motive, as this value was also found as a significant predictor of consumer engagement in the MIX condition.

In addition, further research is needed to study other effective mediums in order to gain consumer engagement for the Familievarken. It may be possible that Facebook is not the right medium to communicate a concept like the Familievarken, as the participants scored mainly on the 'disagree' side of the scales with the statements in this research. For example, on average, participants answered with neutral – somewhat agree on the statements about how much they liked the Familievarken concept (brand image), and even answered with strongly disagree on statements about the functional value and self-concept value. In addition, the willingness to engage with the Familievarken Facebook page is disappointing (slightly disagree - neutral). However, it may also be possible that the participants are just not positive about the Familievarken concept.

Lastly, it is suggested to study the influence of consumer power on brand page engagement further, as this may affect the functional value of brand pages, which may be, depending on from which consumer motive is communicated, related to brand page engagement.

## **7. Conclusions**

Communicating from the animal welfare motive leads to more consumer engagement compared to communicating from the tasteful meat motive on the Facebook brand page of the Familievarken. However, as this difference is found on a 7-point Likert scale, the difference is considered negligible when translated into practice. Ambivalence in communicating from the animal welfare motive and the tasteful meat motive is not found, thus it is suggested to be unimportant to take these underlying motives into account when communicating the Familievarken concept on their

Facebook brand page. Functional value, entertaining value, self-concept value and brand image value are significant predictors of brand page engagement, which therefore are advisable to take into account in the communication strategy of the Familievarken Facebook brand page.

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## Appendix

### 1. Questionnaire (in Dutch)

Als ik varkensvlees koop, vind ik het volgende belangrijk (schaal 1-7):

- Dierenwelzijn
- Lekker eten
- Gezond eten
- Milieubewustheid

Ik ben bekend met “Het Familievarken”: ja/nee

Hier ziet u een voorbeeld van een Facebook pagina. Bekijk en lees de informatie nauwkeurig (appendix 1).

Deze Facebook pagina is...(schaal 1-7)

- Plezierig
- Opwindend
- Leuk
- Vermakelijk

Deze Facebook pagina is...(schaal 1-7)

- Bruikbaar
- Nuttig
- Functioneel
- Praktisch

Op deze Facebook pagina heb ik het gevoel dat ik...(schaal 1-7)

- Interactie kan aangaan met de mensen achter Het Familievarken (openbaar bericht; chatbericht)
- Kan communiceren met mensen achter Het Familievarken
- Terugkoppeling kan geven op mensen achter Het Familievarken
- Antwoorden kan krijgen van mensen achter Het Familievarken

Op deze Facebook pagina...(schaal 1-7)

- Kan ik mensen zoals ik ontmoeten
- Kan ik nieuwe mensen zoals ik ontmoeten
- Kan ik meer te weten komen over mensen zoals ik
- Kan ik interactie aangaan met mensen zoals ik

Door deze Facebook pagina...(schaal 1-7)

- Kan ik een goed impressie maken op anderen
- Kan ik de manier hoe ik word ervaren verbeteren



- Kan ik mijzelf aan anderen voorstellen hoe ik ben
- Kan ik mijzelf aan anderen voorstellen hoe ik zou willen zijn

Het Familievarken is...(schaal 1-7)

- Goed
- Positief
- Leuk
- Veelbelovend

(schaal 1-7):

- Ik zou op de vind-ik-leuk knop van deze pagina drukken
- Ik zou deze Facebook pagina willen volgen
- Ik zou berichten van deze Facebook pagina op mijn tijdlijn willen zien
- Ik zou actief op de hoogte gehouden willen worden van de ontwikkelingen van Het Familievarken op Facebook

Hoeveel keer per week... (schaal 1-7)

- Koopt u varkensvlees in de supermarkt?
- Eet u varkensvlees tijdens het avondeten?
- Eet u varkensvlees tijdens de lunch?

Wat is uw geslacht? Man/Vrouw/Kan of wil ik niet zeggen

Wat is uw leeftijd? ...

In welke provincie woont u?

- |                 |                 |
|-----------------|-----------------|
| - Noord-holland | - Zuid-holland  |
| - Zeeland       | - Noord-brabant |
| - Utrecht       | - Gelderland    |
| - Limburg       | - Overijssel    |
| - Drenthe       | - Groningen     |
| - Friesland     | - Flevoland     |

Welk opleidingsniveau heeft u reeds behaald?

- |                  |                   |
|------------------|-------------------|
| - Geen opleiding | - Middelbaar      |
| - MBO            | - HBO             |
| - Bachelor       | - Master of hoger |

## 2. Facebook conditions

Figure 1: AW condition

**Het Familievarken**  
@Familievarkensstal

**Startpagina**  
Info  
Foto's  
Video's  
Berichten  
Recensies  
Community  
[Een pagina maken](#)

**IN EEN FAMILIESTAL KAN IK LEKKER MODDERBADEN**

**Wetenschap, techniek en ontwerpen in Boekel (gemeente)**

**Community**  
Alles weergeven  
435 personen vinden dit leuk  
452 mensen volgen dit

**Info**  
Alles bekijken  
[www.hetfamilievarken.nl](http://www.hetfamilievarken.nl)  
Wetenschap, techniek en ontwerpen

**Persoonen**  
435 vind-ik-leuks  
Mensen vinden deze pagina's ook leuk:  
Elke Lustrum studievereniging "... Kunst en amusement"  
Porcolum Organisatie  
Agrifood Capital Niet-gouvernementale organisatie (ngo)  
Pagina's die deze pagina leuk vindt:  
Varkens Vandaag  
Innovatief Nederland  
Veehouderij Techniek

**Plaatsen** > Boekel (gemeente) > Het Familievarken  
Nederlands - Frysk - English (US) - Español - Português (Brasil)  
Privacy - Gebruiksvoorwaarden - Adverteren - Jouw advertentievoorkeuren > Cookies - Meer - Facebook © 2018

**Pagina's die deze pagina leuk vindt**  
Varkens Vandaag  
Innovatief Nederland  
Veehouderij Techniek

**Plaatsen** > Boekel (gemeente) > Het Familievarken  
Nederlands - Frysk - English (US) - Español - Português (Brasil)  
Privacy - Gebruiksvoorwaarden - Adverteren - Jouw advertentievoorkeuren > Cookies - Meer - Facebook © 2018

**Foto's**  
impressie exterieur

**Video's**  
Het Familievarken

**Berichten**  
Het Familievarken  
23 oktober 2017 · 6

Groot nieuws! De eerste echte Familievarkensstal zal gebouwd gaan worden! Samen met varkensboeren, wetenschappers, technologiën, architecten en bouwers hebben we nagedacht over de meest ideale huisvesting voor een gelukkig varken. De komende weken kan je op deze pagina alles lezen over de vorderingen die we samen met verschillende partijen maken. Alvast meer lezen over Het Familievarken? Check onze website ([www.hetfamilievarken.nl](http://www.hetfamilievarken.nl))! Like onze pagina en blijf op de hoogte van de laatste updates!

**Vind ik leuk** **Opmerking plaatsen**  
Inge Brunnekreef-Harbers, Anja van Boeser, Christine Versaart en 47 anderen vinden dit leuk.  
30 keer gedeeld

**Het Familievarken**  
23 november 2017 · 6

Wisten jullie dat varkens graag op zoek zijn naar hun eten? Hier zijn ze wel 75% van de tijd dat ze wakker zijn mee bezig! Erik Aunik van Craftworks vertelt hoe het voersysteem van de Familievarkensstal hierop inspeelt. "Het systeem voorziet de familievarkens van voer in de stal, maar ze moeten dit voer vinden door rond te snuffelen en te woelen. Dit vervult één van de natuurlijke behoeftes van het varken".  
[Meer weergeven](#)

**CRAFTWORKS**

**Vind ik leuk** **Opmerking plaatsen**  
Marco Nehmeiman en Het Familievarken vinden dit leuk.

Figure 2: TM condition

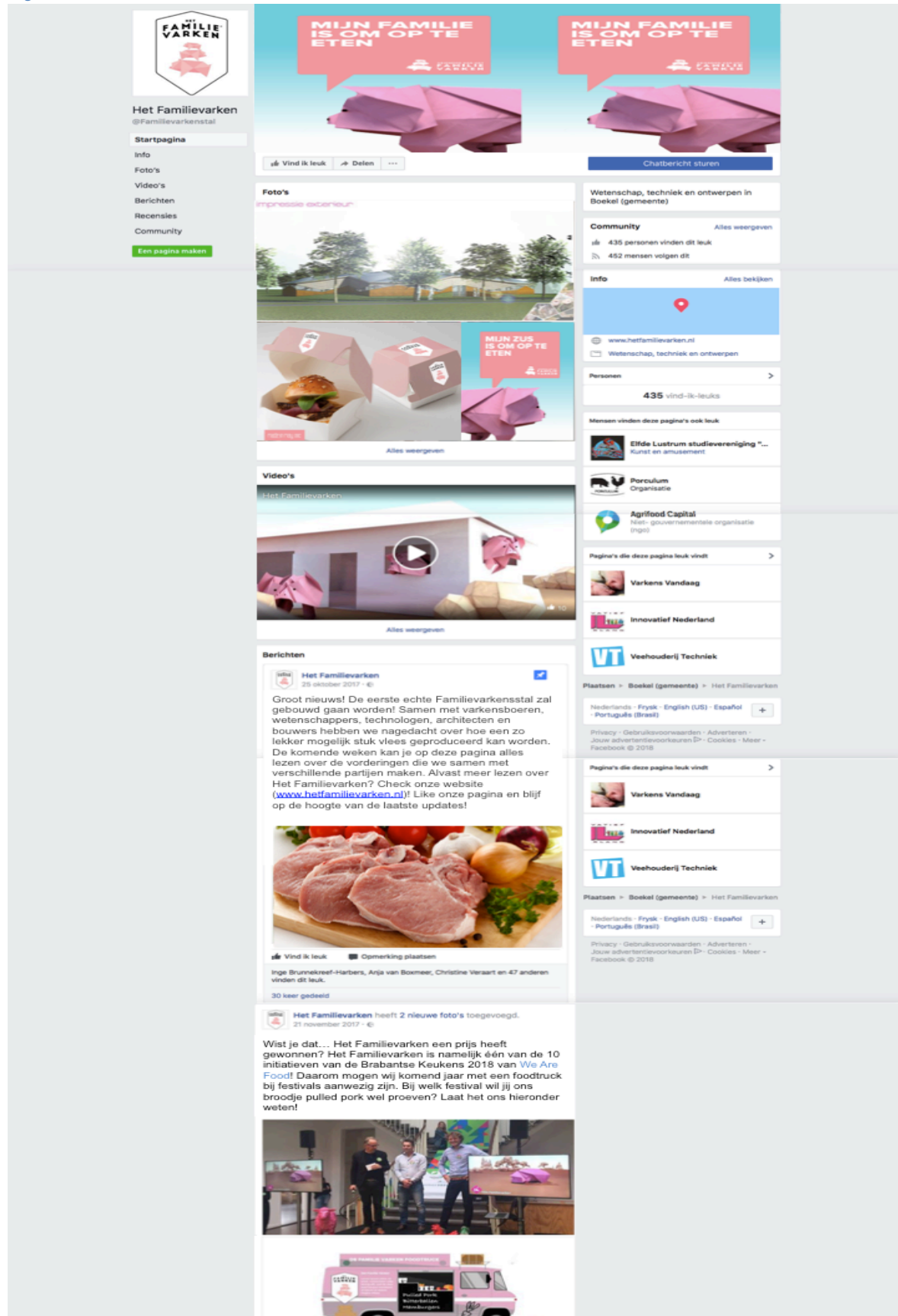
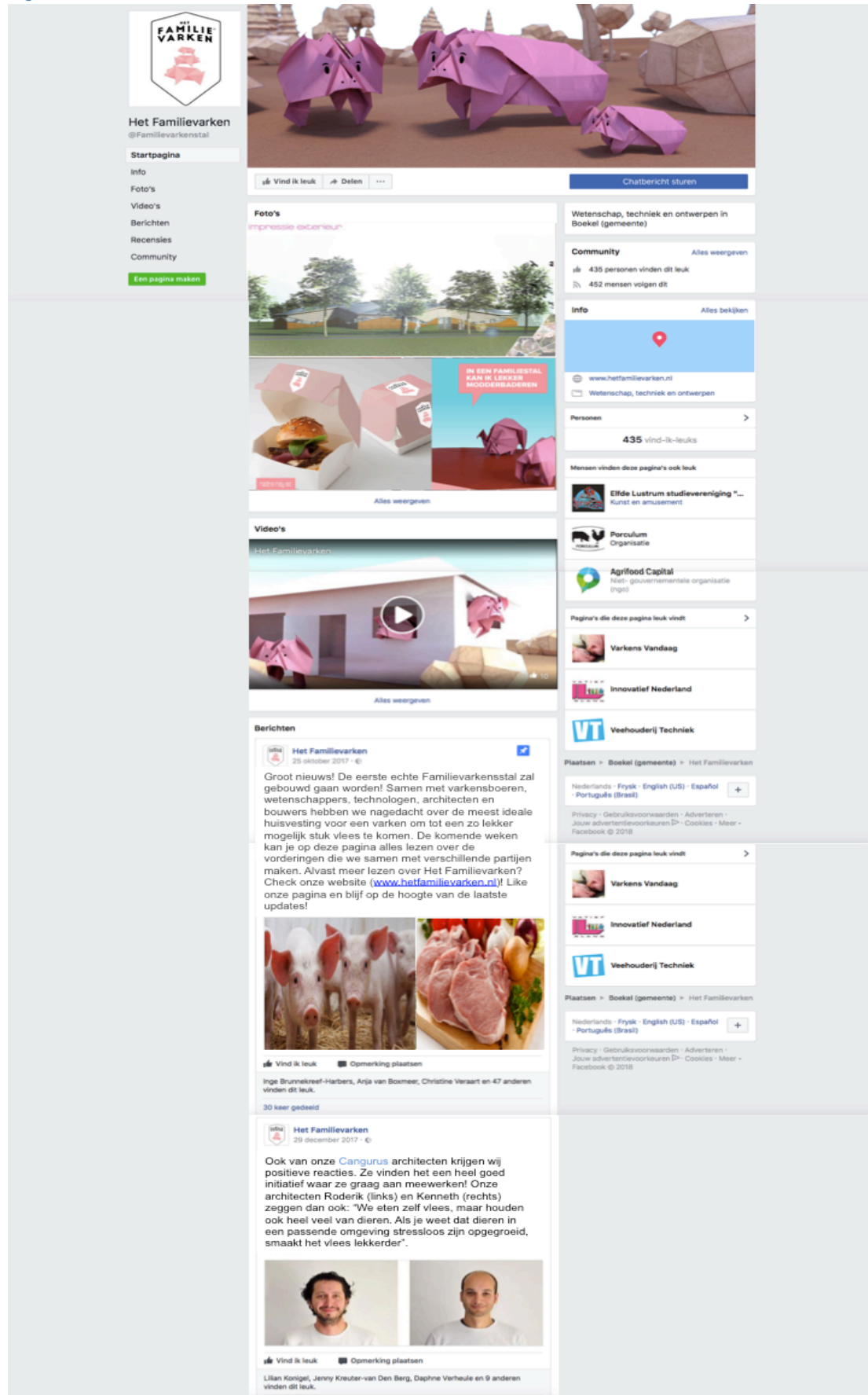


Figure 3: MIX condition



### 3. Succession of randomization

**Table 1: Means (M), standard deviations (SD) and significance levels (p) of items of pre-test and demographics in questionnaire.**

	Condition	M	SD	p
When I buy or eat pork, I find the following important (scale 1-7):				
Animal welfare	AW	5.86	1.19	.22
	TM	5.46	1.49	
	MIX	5.75	1.28	
Tasty food	AW	6.13	0.99	.43
	TM	5.89	1.42	
	MIX	6.00	1.32	
Healthy food	AW	5.02	1.53	.42
	TM	5.18	1.51	
	MIX	5.33	1.64	
Environment	AW	5.05	1.76	.94
	TM	4.97	1.67	
	MIX	5.03	1.48	
I am familiar with the Familievarken:				
Yes (1) – No (2)	AW	1.78	4.41	.65
	TM	1.83	3.80	
	MIX	1.84	3.37	
How many times a week... (scale 1-7):				
...do you buy pork in the supermarket?	AW	1.52	1.71	.72
	TM	1.32	1.72	
	MIX	1.46	1.66	
...do you eat pork during dinner?	AW	1.68	1.67	.75
	TM	1.51	1.60	
	MIX	1.65	1.43	
...do you eat pork during lunch?	AW	0.89	1.39	.99
	TM	0.89	1.65	
	MIX	0.90	1.64	
Demographics				
Age	AW	32.91	14.44	.82
	TM	32.32	15.65	
	MIX	33.70	15.24	
Gender	AW			.46
	TM			
	MIX			
Education <sup>1</sup>	AW	4.03	1.37	.87
	TM	4.02	1.29	
	MIX	4.13	1.37	
Province	AW			.16
	TM			
	MIX			

<sup>1</sup>: 1=no education, 2=secondary, 3=MBO, 4=HBO, 5=Bachelor, 6=Master>.

#### 4. Effect of familiarity on media values amongst conditions

Table 2: Means, standard deviations and significance level of media values amongst conditions. Means (M), standard deviations (SD) and significance levels (p) are presented.

	Condition	M	SD	p
<b>Unfamiliar with concept (N=208):</b>				
Functional value	AW	4.69	1.32	AM-TM .12
	TM	4.27	1.32	AM-MIX .82
	MIX	4.56	1.17	TM-MIX .38
Entertaining value	AW	4.39	1.14	AM-TM .01
	TM	3.84	1.19	AM-MIX .11
	MIX	4.02	1.07	TM-MIX .61
Brand interaction value	AW	4.75	1.47	AM-TM .99
	TM	4.78	1.30	AM-MIX .99
	MIX	4.72	1.24	TM-MIX .97
Social interaction value	AW	3.53	1.58	AM-TM .17
	TM	3.06	1.49	AM-MIX .60
	MIX	3.27	1.51	TM-MIX .69
Self-concept value	AW	3.08	1.50	AM-TM .39
	TM	2.76	1.44	AM-MIX .82
	MIX	3.23	1.41	TM-MIX .14
Brand image value	AW	5.49	1.05	AM-TM .00
	TM	4.42	1.31	AM-MIX .05
	MIX	4.99	1.28	TM-MIX .02
Brand page engagement	AW	3.58	1.92	AM-TM .04
	TM	2.85	1.52	AM-MIX .33
	MIX	3.15	1.75	TM-MIX .57
<b>Familiar with concept (N=47):</b>				
Functional value	AW	5.20	1.50	AM-TM .93
	TM	5.10	1.33	AM-MIX .37
	MIX	4.60	1.29	TM-MIX .61
Entertaining value	AW	5.03	1.42	AM-TM .45
	TM	4.48	1.25	AM-MIX .42
	MIX	4.44	1.10	TM-MIX .99
Brand interaction value	AW	5.47	0.86	AM-TM .97
	TM	5.57	1.31	AM-MIX .96
	MIX	5.58	1.15	TM-MIX .99
Social interaction value	AW	3.86	1.78	AM-TM .99
	TM	3.77	1.07	AM-MIX .99
	MIX	3.77	1.67	TM-MIX .99
Self-concept value	AW	3.71	1.50	AM-TM .35
	TM	2.98	1.35	AM-MIX .90
	MIX	3.46	1.66	TM-MIX .69
Brand image value	AW	5.88	0.94	AM-TM .65
	TM	5.57	1.29	AM-MIX .89
	MIX	5.71	1.66	TM-MIX .93
Brand page engagement	AW	4.72	2.16	AM-TM .69
	TM	4.13	1.90	AM-MIX .57
	MIX	3.96	2.13	TM-MIX .97