

Where To Spend Meagre Resources In BOP Markets: Visual Enhancement Or Customer Care?

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Abstract

Presenting products in a visually pleasing manner is important for business. However, the current research on presenting products in a visually pleasing manner is limited to the use of product displays, shelf layouts, or point-of-purchase (POP) displays. We investigate displaying products in a visually pleasing manner through changes in the physical market's layout, such as when cluttered and chaotic marketplaces are transformed into well-planned marketplaces that allow displaying products in a visually pleasing manner. We hypothesize that, contrary to expectations, marketplaces that allow displaying products in a visually pleasing manner do not increase sales prices, since new buyers enter the market and increase the bargaining power of buyers, countervailing the advantage that sellers have of displaying products in a visually pleasing manner. We confirm our hypothesis by comparing electronic data from two cattle markets in a densely-populated country. We suggest that Marketing Managers should invest meager resources in creating ease for new customers that enter a market rather than investing resources on displaying products in a visually pleasing manner.

Statement Of Intended Contribution

Presenting products to consumers in the most visually pleasing manner is the cornerstone of marketing. Marketers create innovative product displays, such as in-store displays and Point-of-Purchase (POP) displays, to increase the observability of products. However, the current marketing literature only focuses on presenting products in a visually appealing manner using in-store displays or POP displays. Given the global infrastructure development, markets that were previously cluttered and chaotic now have well-planned physical layouts, allowing sellers the opportunity to present products in visually appealing manners to customers due to simple layout changes in the market (excluding the use of in-store displays and Point-of-Purchase (POP) displays).

The current study is the first study of its kind. Comparing markets that are similar entirely except for different physical layouts, the current study finds that for markets where products are presented in the most visually appealing manner due to physical layout changes, sellers do not benefit (sellers cannot charge higher sales prices). Although sellers can present products in a more visually appealing manner, newer buyers enter the market, and the buyer bargaining power increases, reducing seller gains. Results suggest that instead of presenting products in a visually appealing manner, marketers should spend resources on customer care for new buyers that enter the market, increasing the likelihood of loyal customers.

The current study makes many important contributions. Firstly, the study is the first in the marketing literature that focuses on presenting products in a visually appealing manner due to a markets' physical layout changes. Secondly, the current study shows that contrary to belief, presenting products in a visually appealing manner does not create seller benefits. Thirdly, policy-makers - such as governmental agencies or development planners - can use the study results to ensure that sellers provide adequate customer care services and ensure higher business growth.

Introduction

Marketers make intensive efforts to present products to consumers in the most visually pleasing manner. Within the marketing literature, different methods to present products in the most visually pleasing manner have been extensively studied, such as the use of product displays, shelf layouts, or point-of-purchase (POP) displays. Presenting products using attractive and illustrious product displays, marketers hope to attract customer attention and increase product sales. Numerous marketing literature has been dedicated to studying the impact of product displays on customer purchase behavior over the past few decades. For instance, as early as 1975, using experimental procedures, Chevalier (1975) studies the impact of product display characteristics - such as price salience, product movement, or product size - on sales. Similarly, using scanner-panel data, Allenby and Ginter (1995) show that in-store product displays increase product net-utility perceptions and decrease consumer price sensitivity.

Recently, using scanner and observational data, Garrido-Morgado et al (2021) show that the efficacy of in-store product displays depends on a multitude of factors, such as hedonic or utilitarian attributes, and the presence of price or product promotions. While Garrido-Morgado et al (2021) consider different types of in-store displays, such as an island, end-of-aisle, or shelf signage, Han, Chandukala, and Li (2021) consider different display location types. Display locations considered by Han, Chandukala, and Li (2021) include store-front, store-rear, secondary, front-end cap, rear-end cap, and shelf displays. Using scanner panel data, Han, Chandukala, and Li (2021) find that displays closer to the focal category have the largest impact, with front-end displays having the largest impact on category purchase.

Despite studies investigating numerous ways products are presented to customers in the most visually pleasing manner, a large gap remains unfulfilled. The existing studies only focus on using product displays or shelf layout plans to present products in the most visually pleasing manner. However, simple changes in a physical market's layout can also present products to customers in a visually pleasing manner without using product displays, shelf layouts, or point-of-purchase (POP) displays. Suppose a market is initially cluttered and over-crowded, impeding seller efforts to showcase the product in a visually appealing manner to customers. Now, suppose a simple change in the market's physical layout declutters the overcrowded market. The sellers are now allocated wide areas to display products in the most visually appealing manner to customers, without needing product displays, shelf layouts, or point-of-purchase (POP) displays to get customer attention. The buyers can now inspect products in greater detail.

The ability to display products in a visually pleasing manner through changes in the physical market's layout raises many interesting questions: How will sellers in the decluttered market perform, given the wide display areas that are available to showcase products in the most visually appealing manner to customers? Can the sellers charge higher sale prices by showcasing products in the most visually pleasing manner to customers? Can sellers rely on using wide display areas and physical market layout changes to present products in a more visually pleasing manner to customers, instead of using product displays, shelf layouts, or point-of-purchase (POP) displays? Should marketers spend their meager

resources on product displays, shelf layouts, and point-of-purchase (POP) displays, or should money be spent on increasing customer care (e.g. providing product guarantees, logistics, and customer services)?

The present study assesses the impact of presenting products in a more visually pleasing manner due to physical market layout changes, excluding the use of product displays, shelf layouts, or point-of-purchase (POP) displays. Specifically, the study investigates whether an improvement in the physical market layout is associated with higher prices for visual features of a product.

In the study, the impact of physical layout changes on two cattle markets is assessed. In the two cattle markets, expensive animals are sold that have both visual appeal elements (e.g. bright colors, spots) and long-term functional benefits (e.g. milk to be sold in the market). The cattle markets are both similar, except that one of the cattle markets is cluttered, overcrowded, and provides little opportunities to visually inspect animals, while the other market allows presenting animals in a more visually pleasing manner due to physical market layout changes.

Results from the study show that, contrary to intuition, animals with better visual features (e.g. colors, spots on skin) do not fetch a higher sale price when physical market layout changes allow presenting animals in a more visually pleasing manner. Instead, a higher proportion of unique visitors enter such markets. Based on results, marketers are recommended to expend meager resources on customer care, instead of investing in efforts to present products in a visually pleasing manner.

The current study contributes to the literature on presenting products in visually appealing manners and shows that presenting products in visually appealing manners does not always fetch higher prices. Instead, marketers should spend their meager resources on improving customer care, thereby increasing the likelihood of creating a loyal customer base. The study is timely and relevant. Given high IMF global growth projections (Caseloads 2022), many markets that are cluttered and disorganized will inevitably be modernized, improving physical market layouts that allow sellers to present products in a visually appealing manner. Through the current study, we help marketers decide between allocating scarce resources for customer care and presenting products in visually appealing manners to customers.

Theoretical Background

Much research within marketing is dedicated to presenting products in a visually appealing manner to customers. For instance, Areni, Dale, and Pamela (1999) show that point-of-purchase (POP) displays help organize wines into wine grower regions, increasing sales of wines from previously non-profitable regions. Similarly, Breugelmans and Katia (2011) show that in-store displays in physical and virtual store environments increase product sales, through a moderation relationship with display characteristics. In another interesting study, Huddleston et al (2015) use eye-tracking technology to show that product labels without a price tag elicit a higher likelihood to buy compared to product labels with a price. In a ground-breaking study that clusters walking paths in departmental stores, Larson et al (2005) show that customers do not simply walk up and down aisles. Larson et al (2005) identify 14 path patterns that

customers follow, showing that products displayed in the mid-shelves are least likely to receive attention. Furthermore, convenience shoppers mostly stick to the periphery in a market.

While many marketing studies focus on the use of in-store product displays or point-of-purchase displays (POP), there exist no marketing studies that focus on how presenting products in a visually appealing manner to customers due to physical market layout changes impacts sales. Recently, Page et al (2019) conduct a comparison study between two supermarkets by altering the presence of the middle aisle. Similarly, Griffith (2005) compares the tunnel and tree website structures for online shopping layouts, showing how different structures influence product recall and purchase intentions. However, none of the studies focus on how presenting products in a visually appealing manner to customers due to physical market layout changes impact sales. It is important to study the relationship between physical market layout changes and presenting products in a visually appealing manner, given that previous research has found that ambiance (i.e. equipment and fixtures) and layout (planned structure) influence buying patterns the most, while promotions have the least influence on buying patterns (Singh, Neha, and Gaurav 2014).

First, we classify different market types based on physical layouts and then develop our hypothesis.

Visual Feature Enhancing Markets (VFEM) vs Visual Feature Degrading Markets (VFDM)

Physical market places include brick-and-mortar marketplaces where buyers and sellers physically interact. In the current study, online marketplaces are excluded. Physical marketplaces create many challenges, such as accommodating a large number of buyers and sellers, providing amenities (such as toilets, air conditioning, hygiene), and allocating selling stands. When physical marketplaces do not provide an efficient interaction opportunity - such as when buyers and sellers cannot locate each other (i.e. market is overcrowded), basic amenities are absent (toilets, air-conditioning, hygiene, and water are missing), and sellers cannot display products (i.e. buyers cannot evaluate seller products easily) – sellers find it difficult to communicate product features to buyers. Markets where sellers find difficulty in presenting products in a visually appealing manner to customers are referred to as *Visual Feature Degrading Markets (VFDM)*. On the other hand, physical markets where sellers can present products in a visually appealing manner to customers with ease are referred to as *Visual Feature Enhancing Markets (VFEM)*.

The VFEMs are different from VFDMs in several ways. Firstly, the VFEMs have a coherent physical design. Designated areas within the marketplace meet different needs, such as areas for parking, socializing, and trading. There are proper pathways to maneuver within the marketplace. The marketplace is neither crowded nor chaotic. Locating potential buyers or sellers is easy. Maintaining and cleaning the marketplace does not pose challenges, making it easy to dispose of waste and maintain cleanliness. Secondly, the VFEM provides proper product placement areas. Designated product placement spots are provided for sellers, in contrast to the VFDMs where sellers can randomly place products and increase

clutter and obstructions. Thirdly, VFEMs protect against natural elements, such as rain, sun, dust, and harsh weather. Protection against natural elements and adequate air-conditioning allows buyers and sellers to interact for longer periods and with great comfort.

Presenting products in a visually appealing manner influences consumer-product choice

Presenting products in a visually appealing manner to customers offers opportunities to influence consumer product choice in many ways. Creusen and Schoormans (2005) identify several visual features that influence consumer-product choice. For instance, product visual features can communicate symbolic significance, draw attention, provide functional information, convey aesthetic information or help categorize the product in a product category. The product features influence consumer product choice in different ways. For instance, bright colors are valued from an aesthetic point but diminish quality impressions (i.e. functional value). Similarly, the visual features of a product can create perceptions of originality (Althuizen 2021). The ease of presenting products in a visually appealing manner to customers brings many benefits to sellers in VFEMs. Some of the advantages are discussed next.

Impact of presenting products in a visually appealing manner in VFEMs

While many studies are discussed that investigate the impact of product displays or POP displays, no study investigates the impact of presenting products in a visually appealing manner to customers due to changes in the physical layout of a market. While product displays, in-store displays, or POP displays are expensive, the present study investigates whether presenting products in a more visually pleasing manner due to physical market layout changes (i.e. simply increasing the visual prominence of a product) influences sales price or not? Since the issue remains unaddressed, a new theory and a hypothesis are formulated. An empirical investigation follows.

Intensive bargaining in VFEMs. In selling products, buyers and sellers must agree on a price. To extract higher prices, sellers must have a higher bargaining power than buyers. Opportunities to present products in a visually appealing manner can benefit sellers in many ways. For instance, studies show that presenting products in a visually appealing manner in retail contexts increases perceptions of product quality, perceived product experience, total sales, and perceptions of scarcity (Sevilla and Townsend (2016). The beneficial effects of presenting products in a visually appealing manner documented by Sevilla and Townsend (2016) can be attributed to an increase in the product-space ratio (Padberg 1964). The product-space ratio is the amount of space allocated to display a product. Since VFEMs with clutter-free physical layouts provide more product-space ratio, sellers in VFEMs will likely fetch higher prices for presenting products in a visually appealing manner.

However, buyers and sellers derive bargaining power from the presence of choice (Brucks and Shurr 1990). For instance, if buyers can choose between various sellers, the bargaining power of each seller decreases, reducing the prices sellers can charge. On the other hand, if buyers must choose from limited

sellers, sellers can extract higher prices. The impact of visual appeals in enhancing the sale price of a product depends largely on the presence of alternative sellers. If the VFEMs attract many new buyers and sellers, the bargaining power of each seller is likely to decrease. Hence, sellers cannot extract higher prices despite presenting products in a visually appealing manner. Additionally, better opportunities to visually inspect products allow buyers to find defects that are difficult to locate in the highly-cluttered VFDMs, increasing the bargaining power of buyers.

In sum, the presence of a higher product-space ratio in the VFEMs will help sellers create positive product quality perceptions and extract higher prices. However, the impact of a higher product-space ratio is creating quality perceptions, and extracting higher prices will be counteracted by the increased number of alternative sellers and ease of detecting product defects. The two countervailing effects will mean that sellers cannot charge higher prices despite having higher product-space ratios in the VFEMs.

Increased buyer empowerment in VFEMs. While the previous section assessed the impact of improved product-space ratio on the sale price, the current section assesses the impact of customer freedom and empowerment on sale price. The presence of a higher product-space ratio and a reduction in chaos and clutter in the VFEM will reduce the dependence on a few sellers, as mentioned previously. The empowerment that buyers experience will drastically change the bargaining behavior of buyers. Empowerment promotes individualism in bargaining, which is evidence of power (Gunia et al 2013). Gunia et al (2013) suggest that when individualism within the bargaining process increases, the difference between the initial price quoted by a party (known as initial anchor values) and the final price can show the extent of bargaining power of buyers and sellers. When sellers experience a higher bargaining power, sellers quote higher initial prices, while buyers quote lower prices when buyers perceive a higher bargaining power. Similarly, party with the higher bargaining power sends a larger proportion of demand-threatening messages (Dwyer and Walker Jr. 1981; Magee et al 2007)

Due to the presence of greater individualistic behavior brought about by greater buyer empowerment and the presence of alternative sellers, it is unlikely that sellers can charge higher sale prices in a clutter-free VFEM, even though opportunities for presenting products in a visually appealing manner increase.

Decreased participation of powerful intermediaries in VFEMs. Just as improved buyer and seller interaction can impact the bargaining process, the provision of basic facilities at VFEMs (e.g. clutter-free, clean, hygienic locations) can incentivize new buyers and sellers to enter a market. An increase in the number of buyers and sellers will decrease the role of intermediaries. Intermediaries are traders who buy from a focal market and sell the products in distant markets at higher prices for profits. Intermediaries act as a link between buyers and sellers, buying or selling on behalf of other buyers or sellers in return for a fee. Intermediaries provide many useful services, like disseminating cheap market information (Chigusiwa et al 2013; Mitchell 2011), developing important linkages in the supply chain (Sarker and Sasaki 1999), and increasing market competition (Enete 2009).

However, intermediaries can create inefficiencies in a market since products that are bought or sold by the intermediaries do not reflect the true market value of the products (i.e. intermediaries manipulate product

prices for profit) (Badar 2008). The intermediaries are especially present in markets that are cluttered, unhygienic, difficult to navigate, and require traveling long distances too (i.e. the VFDMs) (Gabre-Madhin 1999; Rissleborn 2011). A transformation of a VFDM to a VFEM can decrease the role of intermediaries in a market.

Improvements in physical layouts (such as the presence of hygienic conditions, toilets, amenities, and clutter-free areas) will incentivize buyers or sellers from distant markets to buy or sell in the VFEM, rather than availing services of intermediaries that charge service commissions. Due to the decrease in intermediaries and an increase in buyers and sellers that visit the market, the bargaining powers of a few powerful intermediaries will decrease. Since bargaining power is spread more evenly in the market, the buyers and sellers will bargain more, decreasing the ability of sellers to charge higher prices for presenting products in a visually appealing manner.

Formally, the central hypothesis is stated as follows:

H: Sellers in VFEMs will not generate higher sale prices despite presenting products in a visually appealing manner.

Although the hypothesis seems contrary to popular expectations, results from a field study help provide an answer to the hypothesis.

Overview Of Study

Data from two cattle markets of a largely populated and semi-industrial country are evaluated to answer the hypothesis. Historically, the government has leased cattle markets to private contractors who administer and manage the cattle markets. The private contractors charge exorbitant prices for providing basic services to buyers and sellers (e.g., food, water, parking, security, etc.), and in facilitating buying/selling in the cattle markets (e.g., fees for loading/off-loading the animals, higher prices for feeding fodder or providing veterinary services to the animals). Since the private contractors extract high prices from buyers and sellers, the utility of the cattle markets decreases. On April 2nd, 2015, the provincial government of the largest province (population-wise) decided to end exploitation in the cattle markets and took possession of all cattle markets in the province (Local Government and Community Development 2015).

After taking possession of the cattle markets, the provincial government created semi-government organizations that managed the administration of the cattle markets in the province (the cattle markets in other provinces are leased to private contractors as usual). The provincial government took steps to ease buying and selling in cattle markets within the province. The Provincial government ended the exploitation of private contractors by providing free amenities, such as free water, subsidized parking, security, and cleaning services.

Two interventions of the provincial government are relevant to the present study. Firstly, the provincial government introduced an animal e-tagging system, whereby data of animals and corresponding buyers/sellers is recorded electronically. Data generated from the animal e-tagging system is the basis for the analysis in the present study. Secondly, the provincial government worked to improve the physical layout of the cattle markets. One of these cattle markets, the *S Cattle Market*, is a modern cattle market that fits the description of a VFEM described earlier. On the other hand, the *L Cattle Market* represents the VFDM. Since both the cattle markets are similar in all respects except for the physical layouts, comparisons between the two markets help evaluate the impact of presenting products in a visually appealing manner on sale prices.

Figures 1–5 show the differences between the two markets. Figures 1–3 show the presence of a coherent and planned layout with designated display areas for the *S Cattle Market* (VFEM), while Figs. 4–5 show the presence of a chaotic and cluttered *L Cattle Market* (VFDM).

On an average day, around 1500–2000 buyers and 1000–1500 sellers from all across the country buy/sell at the S Cattle Market, and twice as many people buy/sell at the L Cattle Market. Buyers and sellers come from distant cities and rural villages across the country. Buying/selling starts early in the morning around sunrise and continues until late afternoon. After the buying/selling activity ends, the buyers/sellers return to their villages and distant cities. Due to the need to buy/sell and return to the distant cities/villages at the earliest, a sense of urgency prevails in the markets. Thus, buying/selling is very hectic.

There are several reasons why the two cattle markets are chosen for the study. Firstly, the intervention by the provincial government presents an ideal natural-experiment condition to evaluate the impact of presenting products in a visually appealing manner on sales price (Stock and Watson 2003). By creating a VFEM, a quasi-experimental setting is created. In a quasi-experimental setting, an intervention (a VFEM in the present case) is created by a natural act (the actions of the provincial government in the present case). Hence, the impact of presenting products in a visually appealing manner on sales price can be assessed for both the VFEM and VFDM. Since the VFEM and VFDM are managed by a single organization that applies consistent policies across the VFEM and VFDM, it is easy to control for factors (such as company policies) that can influence the impact of presenting products in a visually appealing manner on the sales price.

Secondly, the purchase risks for buyers and sellers in the cattle markets are high. Since buyers and sellers mostly come from rural areas where incomes are extremely low and legal protection is lacking, buyers and sellers show very cautious and competitive behavior, providing idea study conditions (Minoia and Pain 2017). Thirdly, cows, buffalos, camels, goats, and sheep (collectively referred to as animals) are expensive, investment products having functional benefits (i.e. milk generated from the animals is sold for revenue). Purchase risks for milk-generating animals are high, leading to competitive buyer and seller behaviors. Additionally, the animals have a hedonic value (animals are loved in rural households). Including products that have both functional and hedonic benefits will reveal interesting trends.

Lastly, results from the analysis can provide insights for marketers in countries that rely on the livestock sector e.g., the livestock sector employs around 50 million people in India (10% of the working population), 30 million people in Bangladesh (44% of the working population), and 35 million people in Pakistan (50% of the working population) (Rehman et al 2017). Insights from the current study can help marketers in both developed and developing countries decide the utility of investments in presenting products in a visually appealing manner.

Method. The data was collected between July 2016 and December 2017. The data was gathered electronically at the entry points of the S Cattle Market and the L Cattle Market. When an animal is brought to the market, the animal is stapled with a unique electronic bar-coded tag. At the entrance, the animals are weighed, and owner details and animal features are recorded (e.g. color, age, weight, spots on the skin). All information is stored in a database. When the animal leaves the market, information about the transaction - such as the sale price of the animal and details of the new owner (if a transaction was made) - are recorded. Data for both the cattle markets are recorded separately. In the current study, data for both cattle markets is analyzed separately and compared. Descriptive information about the variables included in the study is shown in Table 1 for the cattle markets.

Table 1
Descriptive statistics for the VFEM and VFDM in the study

	VFDM: L Cattle Market	VFEM: S Cattle Market
<i>Animal breed</i>		
Camel	33 (0.024%)	30 (0.022%)
Buffalo	95208 (72.11%)	93858 (71.09%)
Cow	16989 (12.8%)	28392 (21.5%)
Goat	13880 (10.5%)	3105 (2.35%)
Sheep	5909 (4.47%)	6634 (5.02%)
<i>Animal gender</i>		
Male	25.5%	23.04%
Female	74.5%	76.9%
<i>Spots on the animal?</i>		
Animal has spots	4829 (3.7%)	6542 (4.96%)
Animal is without spots	127190 (96.3%)	125477 (95.04%)
<i>Animal age (average in years)</i>	4.699666	4.366769
<i>Animal color</i>		
Black	16456 (12.4%)	26179 (19.8%)
Brown	95450 (72.3%)	93153 (70.5%)
Other	51 (0.03%)	25 (0.02%)
White	20062 (15.1%)	12662 (9.6%)
<i>Animal weight (average in kg)</i>	349.8631	360.2333
<i>Sale purpose</i>		
Breeding	1403 (1.06%)	1178 (0.9%)
Meat	45540 (34.5%)	48674 (36.9%)
Milk	85076 (64.4%)	82167 (62.23%)
<i>Is animal large?</i>		
Yes	122538 (93%)	124135 (94.02%)
No	9481 (7%)	7884 (5.98%)

	VFDM: L Cattle Market	VFEM: S Cattle Market
<i>Unique animal tags</i>	38329	28819
<i>Unique phone numbers</i>	12628	11094
<i>Unique owner code</i>	15306	13706
<i>Sale price (average in Pakistani rupees)</i>	76004.46	71481.19
<i>Distance between owner home and cattle market (average in KM)</i>	117.5982	67.62583

Descriptives. Animal breed. In the cattle markets, 5 animal types are traded. The animals traded include camels, buffalos, cows, goats, and sheep. Data for both markets shows that all the animals are sold in near-similar proportions (see Table 1). For instance, camels comprise 0.024% of all animals traded in both the cattle markets, while 72% of the animals traded are buffalos. Sheep comprise 5% of all traded animals in both the cattle markets. However, 22% of all animals traded in the S Cattle Market are cows, almost twice the proportion of cows traded in the L Cattle Market. On the other hand, around 10.5% of all animals traded in the L Cattle Market are goats (around 4 times more when compared to the S Cattle Market).

The higher proportion of cows traded in the S Cattle Market is consistent with the S Cattle Market's reputation for trade in expensive milk-giving animals. Although cows and buffalos both provide milk, cows provide a higher quantity of fatter milk (fatter milk is more tasty and nutritious). On the other hand, the large presence of goats in the L Cattle Market shows that many animals brought to the L Cattle Market are meant for slaughter (goats are consumed for meat in the country).

The prevalence of cows in particular and milk generating animals in the S Cattle Market is important for many reasons. Firstly, milk-giving animals are investment products that are bought for long-term functional use (such as selling milk for revenues). For animals traded in the S Cattle Market, visual features of the animals - such as spots (on the skin), color, age, and weight – reflect quality levels and should fetch higher prices, especially since sellers can present animals in a visually appealing manner. However, as hypothesized, the VFEM will also attract newer buyers and sellers, reducing the bargaining power of sellers that present products in a visually appealing manner.

Animal gender. Animals can be segmented based on gender: male or female. Female animals can provide milk, while male animals are used for slaughter (i.e. used as meat) or used for breeding (i.e. producing offspring). Across both the cattle markets, around 75% of the animals are females, showing the importance of the cattle markets for milk, since female animals provide milk (see Table 1). *Spots on animals.* Spots on animals have great significance in determining the visual appeal of an animal. Animals with spots are generally deemed more attractive and reflect better health. Ideally, a seller wants to charge a higher price for spotted animals. In both the cattle markets, around 5% of the animals have

spots, showing the rarity of spotted animals (see Table 1). *Animal age.* Animals that are aged (i.e. more than 5 years) have little use since they have fewer milking periods ahead. Similarly, very young animals, such as 1–2 years of age, require upbringing before they can produce milk. Hence, animals between 2.5-5 years have the highest value. The average animal age seems to be similar in both the cattle markets (around 4.5 years) (see Table 1).

Animal color. Animal color adds visual appeal to an animal. Different color patterns add to the beauty of the animals. Given the emotional association with animals, animals with more striking and beautiful colors are valued more. The data records animals that are colored black, white, brown, or a combination of unspecified colors (animals come in many colors. It is not possible to categorize all colors) (see Table 1). In terms of color, around 20% of the animals in the S Cattle Market are black, approximately twice more than that compared to the L Cattle Market. Brown-colored animals and animals of rarer colors are almost similar in proportion in both the cattle markets. However, the L Cattle Market seems to have around twice the proportion of white-colored animals compared to the S Cattle Market.

Animal weight. Animals that weigh more are healthier, regardless of whether the animals are to be slaughtered (in which case they provide more meat) or to be used for milk generation. In the case when animals are used for milk generation, animals lose weight once they start producing milk. Animals can continue generating milk if the animals maintain weight. Hence, animals with more weight are valued highly. The average weight of the animals seems to be similar in both the cattle markets (see Table 1).

Sale purpose. Animals can be sold for multiple purposes. For instance, animals can be slaughtered for meat or animals can be traded for the long-term benefit of generating milk. Animals can be used for breeding when animals are used in the reproduction process to generate offspring. In terms of the sale purpose, both the cattle markets have almost similar proportions of transactions (see Table 1). *Is animal large?* To control for differences in the sales price that emerges from animal characteristics, the animal size is included. In both the markets, around 93% of the animals are large - cows, buffalos, and camels - while around 6% are small (goats and sheep) (see Table 1). *Unique animal tags.* The data shows that there are 38,329 unique animal tags registered in the L Cattle Market, whereas 28,819 unique animal tags are registered in the S Cattle Market (see Table 1). The difference between tags registered in both the cattle markets is not huge, considering that the L Cattle Market is around 3 times larger in revenues and trade when compared to the S Cattle Market. The narrow difference in the number of unique animals registered between the two cattle markets seems to show that the VFEM (the S Cattle Market) has indeed attracted new buyers and sellers, consistent with expectations outlined earlier.

Unique phone numbers. A measure of new buyers and sellers can be gathered from the unique owner phone numbers that are recorded when registering animal tags. Since many owners did not have phone numbers or refused to provide phone numbers, the utility of unique phone numbers should be treated with caution. Nevertheless, the data shows that 12,628 unique owners (buyers and sellers) are registered in the L Cattle Market, compared to 11,094 unique owners (buyers and sellers) in the S Cattle Market (see Table 1). *Unique owner code.* The owners (buyers and sellers) are also given a unique code once they enter the

cattle markets. In the L Cattle Market, 15,306 unique owners are registered, whereas 13,706 unique owners are registered in the S Cattle Market (see Table 1). The narrow difference in the number of unique owners between the two cattle markets seems to show that the VFEM (the S Cattle Market) has indeed attracted new buyers and sellers, consistent with expectations outlined earlier in the current paper.

Sale price. Results show that (see Table 1), on average, animals sold in the L Cattle Market get a higher sale price (around 6.5% higher than that of the average sale price in the S Cattle Market). The results do lend support to the current study's hypothesis, which suggests that the VFEM (i.e. the S Cattle Market) will attract new buyers and sellers (discussed previously), increasing the bargaining power of buyers. Even if sellers can present products in a visually appealing manner, the rise in buyer bargaining power eliminates any seller benefits that arise from presenting products in a visually appealing manner.

Distance between owner home and cattle market. By including the distance animal owners travel to the cattle markets, the study controls for many unobserved factors, such as the conditions in which the animals are brought to the market (e.g. animals that travel long distances can be unhealthy, tired, or sick and fetch a lower price). Additionally, measures for distance traveled by animal owners to the cattle markets can control both for animal supply/demand conditions and buyer/seller information levels, since more people can travel longer distances if the supply of animals in nearby markets is limited. Furthermore, measures for distance traveled by animal owners to the cattle markets control for the presence/absence of complimentary amenities which can influence animal buying/selling, such as the presence of slaughterhouses. The data shows that (see Table 1), on average, traders in the L Cattle Market come from twice the distance compared to the traders that come to the S Cattle Market.

ANOVA analysis. Having discussed the trends in both the cattle markets, the central question of the study is answered next: How does presenting products in a visually appealing manner influence the sales price? Does the ease of presenting products in a visually appealing manner in the VFEM allow visual features to gather higher prices? Answers to these questions can help managers determine which markets to place their products in.

The n-way ANOVA results are shown in Table 2. The analysis for both the cattle markets was run separately and produced together to ease comparisons. For the L Cattle Market analysis, a total of 336 complete observations are used, while 606 complete observations are used for the S Cattle Market. In both the ANOVA models, the sale price is the dependent variable. The independent variables are all factor variables that are discussed in Table 1. Results from the ANOVA analysis, along with the F values, degrees of freedom, and significance levels for all independent variables are shown in Table 2.

Table 2

ANOVA results for the VFEM and VFDM Note: The dependent variable is the animal's sale price.

Dependent variable: Animal sale price (Rupees)	VFDM: L Cattle Market		VFEM: S Cattle Market	
	df	F statistic	df	F statistic
Animal breed	3	122.08***	3	61.337***
Animal gender	1	410.602***	1	96.39***
Animal spotted or not?	1	3.284	1	0.297
Animal age	4	15.625***	4	8.3***
Animal color	1	1.011	2	0.35
Animal weight	4	43.443***	4	14.5***
Animal sale purpose	2	9.294***	2	5.3**
Distance between owner home and cattle market	4	0.799	4	1.801
Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1				
df: Degrees of freedom				

ANOVA results of mean differences in Table 2 show that many features have group differences that impact the sales price. Animal breed, animal gender, animal age, animal weight, and animal sale purpose seem to influence the sales price. However, consistent with the hypothesis, presenting products in a visually appealing manner does not increase the sales price in either of the cattle markets (spots on animals or animal color are not significant).

Tukey's Honestly Significant Difference (Tukey's HSD) posthoc test for pairwise comparisons. Closer inspection of ANOVA results using the Tukey posthoc test for pairwise comparisons in Table 3 shows important trends. Firstly, group differences within animal breed show that cows, goats, and sheep get a lower sale price compared to buffaloes, while goats get a lower price compared to cows. However, sheep seem to get a higher price compared to cows. The animal gender group differences seem to show that male animals get a lower price compared to female animals. Importantly, consistent with the hypothesis, presenting products in a visually appealing manner, such as spots on animals or animal color does not seem to have any impact on sales price, even in the S Cattle Market (i.e. the VFEM). Spots on animals and animal color do not seem to influence sales price while controlling for animal features that influence quality.

Table 3

Group mean differences using (Tukey's HSD) Post-Hoc Test Note: The dependent variable is the animal's sale price.

Dependent variable: Animal sale price (Rupees)	Predictor Categories	VFDM: L Cattle Market	VFEM: S Cattle Market
		Differences in predictor categories	Differences in predictor categories
<i>Animal breed</i>	Cows-buffalo	-56280.6***	-44982.1***
	Goat-buffalo	-94507.7***	-85332.7***
	Sheep-buffalo	-82037.1***	-84992.2***
	Goat-cows	-38227.1***	-40350.5*
	Sheep-cows	-25756.5	40010***
	Sheep-goat	12470.5	340.4
<i>Animal Gender</i>	Male-Female	-68151.7***	-40650.7***
<i>Animal spotted or not?</i>	Spotted-not spotted	13737.2	-12772.8
<i>Animal age</i>	(3–4 years)-(0–2 years)	26415.7***	12455.6
	(5–6 years)-(0–2 years)	10473.9	-14548.3
	(7–8 years)-(0–2 years)	10429.5	-17619.1
	(more than 8 years)-(0–2 years)	22831.6	7024.3
	(5–6 years)-(3–4 years)	-15941.8**	-27003.9***
	(7–8 years)-(3–4 years)	-15986.2	-30074.7
	(more than 8 years)-(3–4 years)	-3584.1	-5431.3
	(7–8 years)-(5–6 years)	-44.4	-3070.7
	(more than 8 years)-(5–6 years)	12357.7	21572.6
(more than 8 years)-(7–8 years)	12402.1	24643.4	
<i>Animal color</i>	Brown-Black	-593.6	930.7

Dependent variable: Animal sale price (Rupees)	Predictor Categories	VFDM: L Cattle Market	VFEM: S Cattle Market
	White-Black	-3314.7	1278.9
	White-Brown	-2721.1	348.2
<i>Animal weight</i>	(101–200 kg)-(0-100 kg)	-39807.6**	-8946.3
	(201–300 kg)-(0-100 kg)	-24158.8*	-11189.4
	(301–400 kg)-(0-100 kg)	188.5	-4649.1
	(more than 400 kg)-(0-100 kg)	10630.3	26845.0*
	(201–300 kg)-(101–200 kg)	15648.8	-2243.1
	(301–400 kg)-(101–200 kg)	39996.2***	4297.1
	(more than 400 kg)-(101–200 kg)	50438.0***	35791.3***
	(301–400 kg)-(201–300 kg)	24347.3***	6540.3
	(more than 400 kg) - (201–300 kg)	34789.1***	38034.5***
	(more than 400 kg)-(301–400)	10441.7	31494.1***
<i>Animal sale purpose</i>	Meat-Breeding	-10017.6	20743.5*
	Milk-Breeding	1871.9	16051.6
	Milk-Meat	11889.5*	-4691.9
<i>Distance between owner home and cattle market</i>	(101–200 km)-(0-100 km)	-10416.1	-7218.8
	(201–300 km)-(0-100 km)	4576.1	26396.2
	(301–400 km)-(0-100 km)	-7592.1	-8674.3
	(above 500 km)-(0-100 km)	3652.1	-28033.8
	(201–300 km)-(101–200 km)	14992.2	33615.1

Dependent variable: Animal sale price (Rupees)	Predictor Categories	VFDM: L Cattle Market	VFEM: S Cattle Market
	(301–400 km)- (101–200 km)	2824.1	-1455.4
	(above 500 km)- (101–200 km)	14068.2	-20815
	(301–400 km)- (201–300 km)	-12168.1	-35070.6
	(above 500 km)- (201–300 km)	-924	-54430.1
	(above 500 km)- (301–400 km)	11244	-19359.5
Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			

In both the cattle markets, animals of higher age (5–6 years) get a lesser sale price compared to animals of 3–4 years, showing that older animals lose value. More importantly, animals aged 3–4 years get a higher significant sale price increase in the L Cattle Market (animals aged 3–4 are at the peak of giving milk lifecycle). However, the non-significance of animals aged 3–4 years for the S Cattle Market seems to suggest that presenting products in a visually appealing manner is not helping sellers in gaining higher sale prices. In both the cattle markets, animals that are 300 kg or more get higher prices, since animals with more weight show more health and longer milk generating lifecycles. As discussed previously, animals lose weight once they start generating milk. Animals can sustain milk generation only when animals can maintain weight. Lastly, animals sold for meat (slaughter) fetch a higher price when compared to animals sold for breeding at the S Cattle Market.

In sum, the ANOVA analysis supports the study's central hypotheses: presenting products in a visually appealing manner by making changes in the physical market's layout does not seem to impact the sale prices.

Discussion

Results from the ANOVA analysis for both the VFEM and the VFDM market seem to support the central hypothesis of the study: presenting products in a visually appealing manner by making changes in the physical market's layout will not result in higher prices for sellers. As discussed previously, even though a VFEM market provides greater opportunities to present products in a visually appealing manner, the VFEM market also attracts new buyers and sellers. The influx of buyers and sellers decreases the bargaining power of sellers, decreasing sellers' ability to charge higher prices for presenting products in a visually appealing manner.

The results from the present study have many implications for Marketing Managers. Firstly, the question arises, if a VFEM that provides greater opportunities to present products in a visually appealing manner does not increase the sale price, how should marketers get higher prices? How should marketers allocate meager resources? An important result repeatedly discussed in the current study is that a VFEM attracts new buyers. The new buyers are hard bargainers and do not reward marketers for presenting products in a visually appealing manner. Spending meager resources on visually pleasing product features does not generate returns.

A better strategy for marketers is to focus on making the buying process easier for customers and spend resources on customer care. For instance, the ease of navigation and presence of facilities in the VFEM attract new participants from distant areas. Marketers can focus on facilitating customers from these distant areas. As an example, marketers can create product delivery services that help buyers transport expensive products (such as cows or buffalos) over long distances. Similarly, marketers can introduce insurance cover to prevent buyer losses while transporting products over long distances. Marketers can use apps that help buyers locate sellers in a crowded market, increasing a buyer's purchase consideration set. By spending on customer care and providing valuable information to sellers, marketers can create feelings of benevolence and increase the likelihood of customer loyalty and purchase (Dutta, Biswas, and Grewal 2011).

Limitation and Future Research

The present study suffers from several limitations. Firstly, the data available is gathered electronically and can be augmented to answer the central hypothesis of the study. Although the data adequately answers the central hypothesis, more detailed data is beneficial. Specifically, data that contains information on the specific location of sellers in the cattle markets and details of product features can prove beneficial. A future study can include greater data and compare results with the present study.

Secondly, the products in the study are mostly functional. Although animals have a hedonic value in the rural areas from which the data is gathered, possibly, high purchase risks (buyers have little incomes and must get the highest value for money) reduce the focus on hedonic aspects of the products. Since the products are purchased for functional benefits, presenting products in a visually appealing manner likely loses importance in decision making. A future study can be repeated with products that carry lesser purchase risks and determine whether presenting products in a visually appealing manner fetches a higher sale price or not?

Thirdly, the study does not control for sellers' customer care efforts, since no such data is available. Sellers may offer some form of customer care services, such as the ability to transport animals over long distances at the sellers' own risk. A future study that incorporates information on customer care services can unravel customer care options that provide specific marketing strategies.

Declarations

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References

- Allenby, Greg M., And James L. Ginter (1995), "The Effects Of In-Store Displays And Feature Advertising On Consideration Sets", *International Journal Of Research In Marketing* 12, No. 1: 67-80.
- Althuizen, Niek (2021), "Revisiting Berlyne's Inverted U-Shape Relationship Between Complexity And Liking: The Role Of Effort, Arousal, And Status In The Appreciation Of Product Design Aesthetics", *Psychology & Marketing* 38, No. 3: 481-503.
- Areni, Charles S., Dale F. Duhan, And Pamela Kiecke (1999), "Point-Of-Purchase Displays, Product Organization, And Brand Purchase Likelihoods", *Journal Of The Academy Of Marketing Science* 27, No. 4: 428-441.
- Badar, Hammad (2008), "The Role Of Middlemen In Agricultural Marketing: Myths & Reality", Available At: <http://www.Pakistaneconomist.Com/Pagesearch/Search-Engine2008/S.E548.Php>
- Breugelmans, Els, And Katia Campo (2011), "Effectiveness Of In-Store Displays In A Virtual Store Environment", *Journal Of Retailing* 87, No. 1: 75-89.
- Brucks, Merrie, And Paul H. Schurr (1990), "The Effects Of Bargainable Attributes And Attribute Range Knowledge On Consumer Choice Processes", *Journal Of Consumer Research* 16, No. 4: 409-419.
- Caseloads, Rising (2022), "World Economic Outlook", *World Economic Outlook*.
- Chevalier, Michel (1975), "Increase In Sales Due To In-Store Display", *Journal Of Marketing Research* 12, No. 4: 426-431.
- Chigusiwa, Lloyd, Samuel Bindu, Lazarus Muchabaiwa, And Victoria Mudavanhu (2013), "The Role Of Market Middlemen In The Marketing Of Smallholder Horticultural Products In Zimbabwe."
- Creusen, Marielle EH, And Jan PL Schoormans (2005), "The Different Roles Of Product Appearance In Consumer Choice", *Journal Of Product Innovation Management* 22, No. 1: 63-81.
- Dutta, Sujay, Abhijit Biswas, And Dhruv Grewal (2011), "Regret From Postpurchase Discovery Of Lower Market Prices: Do Price Refunds Help? ", *Journal Of Marketing* 75, No. 6: 124-138.
- Dwyer, F. Robert, And Orville C. Walker Jr (1981), "Bargaining In An Asymmetrical Power Structure", *Journal Of Marketing* 45, No. 1: 104-115.

- Enete, A. A (2009), "Middlemen And Smallholder Farmers In Cassava Marketing In Africa", *Tropicultura* 27, No. 1: 40-44.
- Gabre-Madhin, Eleni Z (1999), "Of Markets And Middlemen: The Role Of Brokers In Ethiopia", No. 595-2016-39986.
- Garrido-Morgado, Álvaro, Óscar González-Benito, Mercedes Martos-Partal, And Katia Campo (2021), "Which Products Are More Responsive To In-Store Displays: Utilitarian Or Hedonic?", *Journal Of Retailing* 97, No. 3: 477-491.
- Griffith, David A (2005), "An Examination Of The Influences Of Store Layout In Online Retailing." *Journal Of Business Research* 58, No. 10: 1391-1396.
- Gunia, Brian C., Roderick I. Swaab, Niro Sivanathan, And Adam D. Galinsky (2013), "The Remarkable Robustness Of The First-Offer Effect: Across Culture, Power, And Issues", *Personality And Social Psychology Bulletin* 39, No. 12: 1547-1558.
- Han, Yoonju, Sandeep R. Chandukala, And Shibo Li (2021), "Impact Of Different Types Of In-Store Displays On Consumer Purchase Behavior", *Journal Of Retailing*.
- Huddleston, Patricia, Bridget K. Behe, Stella Minahan, And R. Thomas Fernandez (2015), "Seeking Attention: An Eye Tracking Study Of In-Store Merchandise Displays." *International Journal Of Retail & Distribution Management*.
- Larson, Jeffrey S., Eric T. Bradlow, And Peter S. Fader (2005), "An Exploratory Look At Supermarket Shopping Paths", *International Journal Of Research In Marketing* 22, No. 4: 395-414.
- Local Government And Community Development (2015), "Model Cattle Market Sheikhpura", Available At: Model Cattle Market Sheikhpura | Local Government And Community Development (Punjab.Gov.Pk) (Accessed: 6 Sep 2021)
- Magee, Joe C., Adam D. Galinsky, And Deborah H. Gruenfeld (2007), "Power, Propensity To Negotiate, And Moving First In Competitive Interactions", *Personality And Social Psychology Bulletin* 33, No. 2: 200-212.
- Minoia, G. And Pain, A. (2017), "Understanding Rural Markets In Afghanistan", Briefing Paper-*Secure Livelihoods Research Consortium*, (27)
- Mitchell, Tara (2011), "Middlemen, Bargaining And Price Information: Is Knowledge Power", *London School Of Economics And Political Science*: 1-43.
- Ott, Ursula F (2011), "The Influence Of Cultural Activity Types On Buyer-Seller Negotiations: A Game Theoretical Framework For Intercultural Negotiations", *International Negotiation* 16, No. 3: 427-450.

Padberg, Daniel I. (1964), "The Space-Sales Ratio As A Measure Of Product Differentiation", *Journal Of Farm Economics*, 46(1), Pp.173-178.

Page, Bill, Giang Trinh, And Svetlana Bogomolova (2019), "Comparing Two Supermarket Layouts: The Effect Of A Middle Aisle On Basket Size, Spend, Trip Duration And Endcap Use", *Journal Of Retailing And Consumer Services*, 47: 49-56.

Rehman, Abdul, Luan Jingdong, Abbas Ali Chandio, And Imran Hussain (2017), "Livestock Production And Population Census In Pakistan: Determining Their Relationship With Agricultural GDP Using Econometric Analysis", *Information Processing In Agriculture* 4, No. 2: 168-177.

Risselborn, D (2011), "Market Power Of Middlemen: The case of quinoa in Bolivia", *Master's Thesis, Stockholm School of Economics*.

Sarker, Abdul Latif, And Takashi Sasaki (1999), "Role Of Middlemen In Marketing System-The Case Of Potato And Banana Marketing In Bangladesh", *Japanese Journal Of Farm Management* 37, No. 2: 147-152.

Sevilla, Julio, And Claudia Townsend (2013), "The Product-To-Space Ratio Effect: Space Influences Perceptions Of Scarcity And Product Preference", *ACR North American Advances*.

Sevilla, Julio, And Claudia Townsend (2016), "The Space-To-Product Ratio Effect: How Interstitial Space Influences Product Aesthetic Appeal, Store Perceptions, And Product Preference", *Journal Of Marketing Research* 53, No. 5: 665-681.

Singh, Priyanka, Neha Katiyar, And Gaurav Verma (2014), "Retail Shoppability: The Impact Of Store Atmospherics & Store Layout On Consumer Buying Patterns", *International Journal Of Scientific & Technology Research* 3, No. 8: 15-23.

Stock, James H., And Mark W. Watson (2003), "Introduction To Econometrics. Boston: Addison-Wesley."

Figures

Figure 1

A view of the VFEM

Figure 2

A view of the VFEM

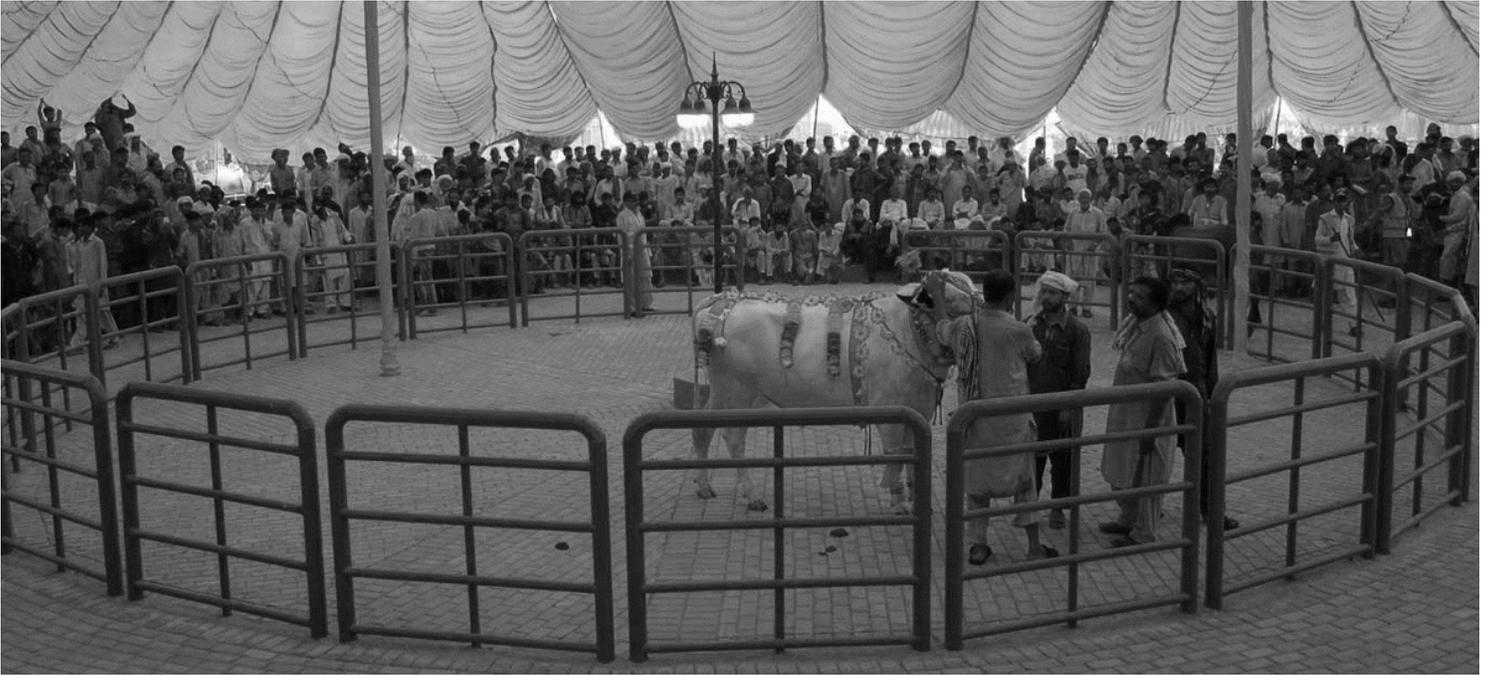


Figure 3

A view of the VFEM

Figure 4

A view of the VFDM



Figure 5

A view of the VFDM