

## Design and Cost Estimation of Modern Angkringan Cart

Darwin Yuwono Riyanto<sup>1</sup>, Hardman Budiarto<sup>2</sup>, Mochamad Farkhan Syahtoni<sup>3</sup> Martinus Sony Erstiawan<sup>4\*</sup>

<sup>1,2,3,4</sup> Universitas Dinamika, Indonesia

Email: [martinus@dinamika.ac.id](mailto:martinus@dinamika.ac.id)\*

\*Martinus Sony Erstiawan

### ABSTRACT

This research aims to develop an angkringan cart design derived from traditional angkringan inspiration to become modern, then parse the estimated manufacturing costs. The design concept combines traditional and modern elements using a three-wheeled motorcycle to increase mobility and appeal to millennials. The method used is descriptive qualitative with data collection techniques through interviews, observations, and literature studies. The results showed that the modern angkringan cart based on a three-wheeled motorcycle has a minimalist, aesthetic, and efficient design. The materials used include hollow iron, aluminium plate, and wood to ensure durability. Red, yellow, and white colours were chosen to increase visual appeal and branding. The estimated cost of making the cart includes the cost of purchasing a motorcycle, materials, painting, accessories, labour services, as well as unexpected expenses, with a total budget of around IDR 50,500,000. This design offers high flexibility in mobility and operational efficiency. Further studies can evaluate the effectiveness of the design and maintenance over a period of time to improve the performance of modern angkringan carts.

**Keywords:** modern angkringan cart, three wheeled motorcycle, cost estimation, design, branding

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### INTRODUCTION

Business competition for food and beverage market share is fierce. Entrepreneurs compete to demonstrate competitive excellence and succeed in each business. The culinary diversity of each region has its own distinctive characteristics, unique flavors, and distinct variations [1]. A simple drink menu featuring signature coffee, ginger, and hot tea, along with simple foods like nasi kucing (rice cake) and fried snacks, can be enjoyed at affordable prices [2], [3].

Angkringan (a food stall) has become part of the hangout culture for people around Solo and Yogyakarta. The number of angkringan stalls has grown rapidly and has spread to major Indonesian cities, creating fierce competition. Angkringan stalls are inseparable from simple carts, retaining their old-school concept, using wood as the basic material [4]. The size of a traditional cart is not designed to accommodate a lot of equipment, so the cooking and serving process is less efficient, but it does have enough space for preparing food, storing food, grilling, making drinks and placing customers [5]. This traditional concept has been used for generations,

so with the development of the times, it is necessary to follow conditions and behavior, besides that the traditional angkringan concept seems old-fashioned and less attractive [6].

The cart has become a flexible vehicle for street vendors selling food and beverages, with a relatively small initial investment required to make it a personal property. The cart is designed with a simple concept and lightweight materials, which can be easily acquired at an affordable cost, such as wood, metal plates, zinc, paint, glass, and other materials that make the cart ready for use [7][7]As such, the angkringan cart model has evolved to adopt a more modern approach, integrating contemporary trends with an attractive design, colorful lights, unique logos, and a menu with clearly stated prices[8]. The cart is equipped with adequate tools to handle customer orders, and the vendor wears a uniform while maintaining personal hygiene. The food menu has become more varied, the space more spacious, and the interior design more appealing, all while maintaining a friendly attitude toward customers. These are characteristic features of the modern angkringan [9]. Additionally, effective marketing strategies help build a brand, attract customers, and ensure the consistency of flavor and ingredients, which continue to diversify[10], [11], [12]. This approach contributes to high profitability by effectively managing operational costs according to business needs [13].

To achieve this, an initial design concept for a modern angkringan cart is needed, one that is both attractive and feasible within the budget constraints, alongside sufficient initial capital that plays a crucial role in building a modern cart [14]. This allows the traditional and modern design combination of the angkringan cart to be maximized, efficient, and long-lasting, utilizing quality materials at an affordable price [15].

The concept and characteristics of a modern cart involve several emerging considerations that become the choice of business actors with minimalist, vintage, or industrial cart designs considered more aesthetic and modern, thus able to attract customers and create a pleasant culinary experience. From this choice of modern cart design gives a sturdy and timeless impression that can be applied practically to the cart to create an efficient and multifunctional space. This design strengthens the business identity that distinguishes it from competitors, including vintage designs that are more suitable for traditional food, such as angkringan. There is a need to develop unique designs and creative ideas by adding modern features or using other media that can function as carts, for example a three-wheeled motorbike, or pick-up truck, or rickshaw that is uniquely designed to become a modern cart [16].

he basic materials for making an angkringan cart include several options, including wood, zinc plate, nails, nuts, bolts, and other materials to form an angkringan cart [17]. Anthropometry used in carts has characteristics that follow the environment, culture, body size, shape, and size supported by the arrangement of position and space as well as the furniture used [18]. The tools or media used for making a modern vintage angkringan cart certainly require a detailed cost breakdown to support all of this. The raw materials, such as wood, metal, aluminum, or plastic, greatly determine the cart's quality and durability, which can also affect the price. Additionally, paint, varnish, and other finishing materials are needed to make the cart look more attractive. Meanwhile, other costs include designer services for sketching, labor (craftsmen) to assemble and build the cart, and other materials and tools to support the cart's construction. Cost estimates determine the overall price, which can be calculated in advance based on the quality of the materials and the chosen design concept. A raw material price survey and a thorough and realistic budget plan are carried out to determine the required investment.

Building a modern angkringan cart requires detailed cost estimates to determine the approximate capital required. This is especially true when using a three-wheeled motorcycle combined with an angkringan cart [19]. The purpose of this research is to develop a product design and determine the estimated cost of a modern angkringan cart. The urgency of this research is that a modern cart design can attract and enhance consumer perception and appeal. Innovative design can enhance aesthetics and add functional value, reduce operational costs, and improve productivity and brand image. Furthermore, it can identify costs that arise as a basis for capital requirements.

## **METHOD**

This study used a descriptive qualitative approach, focusing on the design development and costing of a modern angkringan cart. To obtain valid and comprehensive data, this study used a combination of structured questionnaires and in-depth interviews. Questionnaires were distributed to the target sample, namely millennials, to quantitatively measure design preferences. Meanwhile, interviews were conducted with workshop owners and angkringan sellers to obtain qualitative data regarding challenges, functional needs, and practical considerations. Questions in the interviews were: What kind of angkringan cart design appeals to you most, the two main reasons for choosing a cart design, and the most important visual elements in a modern angkringan cart. Interviews were conducted with workshop owners and angkringan sellers/owners. The units analyzed were the cart design style, materials, and dimensions. Furthermore, the costs incurred and the determination of cost estimates borne by business owners in making a modern angkringan cart with a three-wheeled motorcycle. Data collection techniques included observation and interviews with cart practitioners, in this case focusing more on angkringan sellers (owners).

Subsequent interviews with academics focused more on determining the characteristics of modern carts. Other data collection, namely literature studies, is more directed at the appropriate design process, starting from modern carts, size, material, anthropometry, ergonomics, and cost determination. Data analysis used in this study uses the interactive analysis model of Miles and Huberman. Data analysis using Miles and Huberman is divided into three parts, including data reduction starting from finding basic data sources from scientific articles, supporting documents about the design, other sources that inspire and add to the researcher's knowledge and produce arguments. Data presentation is used as a basis for making conclusions according to the understanding of the facts in the field based on patterns with different meanings so that the data presented becomes a conclusion for the next activity (process). Verification (conclusions) can change according to developments in the field and the final results of the modern angkringan cart.

## **RESULTS AND DISCUSSION**

Based on data collected through descriptive qualitative methods, findings indicate a significant consumer paradigm shift from traditional models to more contemporary designs. The questionnaire results clearly show that the modern, more practical concept of angkringan dominates the choice, with 54%, indicating that millennials prioritize minimalist aesthetics and functional efficiency. This preference is not only about style, but also reflects a dynamic,

practical-oriented urban lifestyle. This data empirically supports the argument that innovation in cart design needs to align with changing market needs and preferences.

Furthermore, field observations and interviews provided critical context for the design implementation process. Interviews with workshop owners revealed the technical and logistical challenges of integrating conventional materials with a modern vehicle platform. The choice of hollow steel and aluminum plate—as mentioned by the interviewees—reflects technical considerations related to weight, durability, and material availability, which are crucial factors in product engineering. Interviews with angkringan vendors, on the other hand, confirmed the functional validity of the design. They highlighted mobility and market reach as key advantages, which directly impact revenue potential. However, concerns about security also emerged, suggesting that cart design must consider both functional aspects and asset protection. Overall, this data strengthens the argument that modern angkringan cart design is an innovative solution that bridges tradition and modernity, integrating aesthetics, functionality, and technical feasibility.

Based on the data obtained through observation in creating the concept of a modern angkringan cart, an attractive design and strong enough materials are needed to produce a modern angkringan cart. Further data based on the results of interviews with cart workshop owners focuses more on strong materials to reduce damage during collisions, and materials are easy to obtain. The angkringan cart material uses galvanized plate with a thickness of 1 mm, hollow iron, wood (board), blind screw rivets, and paint. According to the workshop owner, there are difficulties in making angkringan carts. The difficulty in question is that the work on the angkringan cart has not been on time. In making a modern angkringan cart, it takes time and determines the work schedule according to the schedule from the beginning to the final result into a modern cart. This is because the workshop owner does not only focus on building a modern angkringan cart but also serves customers or consumers with other concepts, for example, a coffee shop using a motorbike.

The innovation of modern angkringan carts in this study began with a traditional wooden cart replaced with a three-wheeled motorcycle. This increased the completion time. The changes made, of course, involved the workshop owner and the customer (customer) redesigning the concept from a modern angkringan cart to a three-wheeled motorcycle. The change to a three-wheeled motorcycle concept significantly increased the overall completion time. The concept of a modern angkringan cart using a three-wheeled motorcycle is an innovative idea. The concept of a modern angkringan cart using three wheels combines the culinary traditions of street food stalls with mobility and efficiency, allowing for easier movement and access to a wider customer base.

The dimensions of the modern three-wheeled angkringan cart follow the standard dimensions for a three-wheeled motorcycle: 67 cm wide, 150 cm long, and 135 cm high. These dimensions are made of galvanized sheet metal, suitable for motorcycle bodies. Furthermore, the target market for modern three-wheeled angkringan carts is millennials. The primary colors used are yellow and red. The design of the modern angkringan cart was determined based on a questionnaire distributed to millennials, the results of which can be seen in Figure 1.



Figure 1. Joglo Angkringan Design Concept

The questionnaire results showed 11% interest in the joglo angkringan concept. The modern joglo angkringan cart concept combines traditional art with joglo art. This combination adheres to traditional design, maintaining the classic aesthetic of the angkringan, with the cart's shape and smooth polishing and classic paint (brown with wood varnish) adding an elegant, modern, and classic feel.

The number of people interested in the modern angkringan design concept showed a 35% increase. The modern angkringan design concept combines various elements, including modern and classic ones. Modern accents are used through a combination of wood and metal (iron/stainless steel) on the frame and small details. This concept creates a modern feel without overpowering traditional touches. Furthermore, the provision of chairs for hanging out in attractive colors attracts potential customers.



Figure 2. Modern Angkringan Design Concept

The results showed that interest in the practical modern angkingan concept reached 54%. This concept is preferred by millennials, who prefer a more contemporary, creative style, featuring cube, prism, or bold symmetrical lines without elaborate ornamentation. Reflecting a futuristic style, it can provide a fresher, cleaner, more modern, and more minimalist appearance.



Figure. 3. Practical Modern Design Concept

Modern angkringan cart designs utilize pastel colors, monochrome, or even striking color combinations. The cart's design takes into account layout and efficiency in sales and storage. Furthermore, the design must be attractive and Instagrammable. Lighting can be bright and economical, with LED lights for increased visibility at night.

## **Design Analysis**

Based on the results obtained in developing the design concept of a modern angkringan cart collaborated with a three-wheeled motorcycle, there are several points that need to be discussed, namely the shape of the cart, materials and finishing, functional design, aesthetics and branding, flexibility of use. In the shape of the cart, the chosen design seems quite modern with a structure resembling a closed box placed on the top of the motorcycle and cart. On a three-wheeled motorcycle that has been customized and transformed into an angkringan cart, it becomes part of the promotion by having a unique aesthetic so that it can add to the impression of a traditional angkringan cart in the modern era. Materials and finishing are made of lightweight materials ranging from hollow iron, plates with a diameter of 1mm, wooden planks and other materials to support the creation of a cart with a red color. The color impression on this cart is three colors, namely red, yellow and white. The red color has an emotional impression, and attracts attention and has a strong identity highlighting the characteristics of the cart, bright and brave and has an optimistic impression. The yellow color brings an optimistic, creative and innovative, dynamic and open impression. The impression of white with a clean, simple and elegant philosophical concept.

Functionally, the design is assessed from the space capacity, the stability of the motor and the drive affect the cart when crossing uneven, damaged and bumpy roads. In the stability of the angkringan cart using a three-wheeled motorbike with the cart load on the bed is very important because the load is not only on the cart but also added to the ingredients, water in jerry cans, equipment, stove, LPG gas and so on. Accessibility serves consumers by making tables with minimalist sizes and windows to block light makes it easier for consumers to reach orders that have been made and the table intended for consumers can function well. In aesthetics and branding, it brings out the color of the graphic design that is striking and suitable for use on the road to attract attention especially at night. The theme is more towards racing because the stickers attached to the cart have a racing flag theme (start and finish). In addition, large and clear graphic elements in the design are good for attracting attention and certain consumers and are used as a promotional tool when going around the village or main road.

The flexibility of three-wheeled mobility makes it easy to move or use in various locations. Using a three-wheeled motorcycle is a highly effective solution for selling products in different locations and venues. Customization is possible, allowing for additional chairs and tables as the average number of customers increases. Despite these achievements, there are certainly shortcomings in the design implemented in the form of a cart using a three-wheeled motorcycle, utilizing the bicycle's tray. The space (size) of the motorcycle's tray is not large enough, making it appear crowded. However, extra security is needed for the cart. For example, during daily activities, the guard's cellphone needs to be monitored, and equipment, including LPG, stoves, and other potentially profitable equipment, needs more attention to reduce the risk of loss.

## **Cost Estimation**

Estimating the cost of building a modern angkringan cart with a three-wheeled motorcycle requires a considerable amount of time. The price of a new three-wheeled motorcycle is quite high compared to other costs. Other costs include modifying the three-wheeled motorcycle into an angkringan cart, which requires materials made from hollow

lightweight iron measuring 40x40 and 20x20. In addition, other materials include wooden planks as the base of the cart, aluminum plates for the base and roof, and wood to maintain the traditional sustainability of the angkringan cart. Labor costs (workers) for modifying the motorcycle and angkringan cart, and the cost of accessories as supporting items include chairs, tables, lamps, drink holders, stoves, plates, and so on.

The cost of building a modern angkringan cart using a three-wheeled motorcycle depends on the price of each material. The materials required are determined by the size, design, and desired additional features. Furthermore, labor costs are a direct cost of constructing a modern angkringan cart.

Table 1. Estimated Costs

No	Description	Amount (IDR)
1	Motorcycle	26.000.000
2	Materials	10.000.000
3	Painting and Finishing	2.500.000
4	Accessories	7.500.000
5	Labor Costs (Workers)	2.500.000
6	Miscellaneous Costs	1,500,000

The estimated cost (see Table 1) for building a modern angkringan (traditional food stall) using a three-wheeled motorcycle varies depending on several factors: materials, price, size, and accessories. This angkringan uses a new three-wheeled motorcycle of a specific brand, supported by a suitable size of the tank. The advantage of using a new motorcycle is that there is no additional maintenance burden, thus reducing additional expenses. Using a used motorcycle requires high maintenance costs.

Materials are tailored to needs and prices at hardware stores. Furthermore, inflation rates change over time, which can impact budgeted costs. However, if the budget has been mutually agreed upon between the owner and the workshop but prices have increased, the identified materials may also change to reflect current prices.

The cost estimate that has been owned is not yet fully realistic price in the field. Details of material details (materials) such as 40x40 hollow iron with a total of 3 pcs with a length of 6 meters, 20x20 total of 3 pcs, 1 box of pivot nails, 1 package of welding wire, wood (board) with a length of 2 meters with a total of 6 pcs, 1 mm thick aluminum plate, teak wood with a total of 6 pcs, nuts and bolts for strengthening the frame with the motorcycle body, the cost of work during the agreed period of 2 months with daily wages.

The color work of the motorcycle with the color of the cart needs to be adjusted and carried out an adjustment process following the color of the cart. Where the adjustment process is done by removing the original color of the motorbike by removing the initial color of the three-wheeled motorbike using a paint remover chemical liquid. The color adjustment process is carried out using materials to create a new color that is adjusted to the color of the cart, namely red. Accessories are used to add a branding impression including stickers, banners, bright lighting (lamps), chairs adjusted to the angkringan concept with white accents, tarpaulins for the roof, material storage cabinets, supporting equipment including kettles, charcoal stoves (stoves), hot water cooking places, glass shelves, and so on. Furthermore, labor services

(craftsmen/workshops) are paid a wage in 1 day of Rp. 75,000, - for 2 months (one week 5 working days) and the craftsman receives a wage for 2 months of Rp. 3,000,000, -.

And there are other costs as reserve costs if other costs have exceeded the budget limit. In total, the work of making a modern angkringan cart using a three-wheeled motorbike is around Rp. 50,500,000,- including reserve funds. Budget realization based on actual expenditure has run according to the plan agreed upon between the cart owner and the repairman. And there is a remaining unused budget, namely not using reserve funds so that it is still intact at Rp. 1,500,000,-, so that the total overall cost used is Rp. 49,000,000,-.

## Findings

### Frame Making

The cart frame (see figure 4) used is hollow iron with a size of 40x40 as a pole construction, while the size of 20x20 is used as a support. The hollow iron is adjusted to the size of the cart motor with a width of 67 cm, a cart length of 150 cm, and a height of 135 cm. The tools used are plate scissors, iron cutting tools (grenda) with the size, an electric iron drill according to the size of the nail (rivet screw blind), a blue pencil/ballpoint pen as a marker, a meter and a square ruler, a hand riveter, and a rivet screw blind size SP-540, a hammer, and clamping pliers. Another tool, namely electric welding, is used to strengthen the foundation between the motor iron plate and the hollow iron.



Figure 4. Cart Frame

### Making After the Cart Frame

Additional materials used in making the cart walls (see figure 5) use aluminum plate with a thickness of 2 mm.



Figure 5. Cart Walls

The tools used were sheet metal shears, a hand riveter, and blind screw rivets according to size, hinges, a hammer, a marker, a right angle ruler, a drill, a cutting tool (grinder), and sandpaper. Additional materials used in making the cart walls were 2 mm thick aluminum plate.



### **Making a Table Frame**

Making a table on a modern angkringan cart (see figure 6) on a three-wheeled motorbike with hollow iron material with dimensions of 40x40 and 20x20, with a table width of 350 mm, a height of aluminum plate for the upper window of 1050 mm, 4 pcs hinges, and rivet screw blinds. The tools used are a hand riveter, drill, electric cutting machine, square ruler, and marker. While on the ground floor using a wooden board covered with a thin plate measuring 1 mm thick with a width of 670 mm. The materials used are plates according to size, wood (boards), wooden nails. The tools used are a saw, wood sandpaper, a hammer, a wood cutting tool, a hammer, pliers, a marker, and a square ruler, and a meter.



Figure 6. Cart Table and Floor Construction

### **Painting Process**

The cart painting process (see Figure 7) involves several steps and uses tools and materials to achieve optimal results. The material used is degreaser. Degreaser is a chemical solution used to clean surfaces of dust, dirt, oil, and other contaminants. Fine sandpaper is used to roughen the aluminum surface so the paint adheres perfectly. Fine sandpaper uses a grit of 200-400 for a smoother finish.

There are several special layers for aluminum, starting with the base coat, a heat-resistant paint solution that acts as a protective layer and ensures the paint adheres firmly to the aluminum surface. An undercoat is used as a second layer, acting as a base coat, covering the original color and preventing moisture from reaching the paint surface.

Other materials used include tape and newspaper/plastic, used to cover unpainted areas, such as handles or other parts of the cart. The spray painting method aims to enhance the finish.~requires a compressor and a spray gun, resulting in a smoother and more even paint application.



Figure 7. Cart Painting Process

The colors used by modern angkringan carts are red and yellow. Red signifies energy, strength, and vitality. It signifies courage and action, a passion for innovation and risk-taking. Psychologically, red is associated with passion and desire, which require an emotional touch. Red is highly effective in attracting attention because it conveys a sense of urgency or warning.

Red creates a strong identity, emphasizing warmth and emotional characteristics that reflect friendship or familiarity. The friendliness of red conveys a sense of connection between people.

The color yellow was chosen because it has a strong philosophy that carries emotional and symbolic meaning. It symbolizes cheerfulness, optimism, attention, self-confidence, innovation, creativity, and innovation, friendliness and approachability, speed and dynamism, and attraction. Yellow is also a cultural symbol that represents honor, power and prosperity, as well as majesty and high status. Yellow also serves as the basis for openness and a willingness to change towards new experiences.

The meaning of white in modern angkringan seating products. White in seating product designs has a deep philosophy, conveying an impression of cleanliness, simplicity, and elegance. The use of this color often influences consumer perception of the function and aesthetics of the product, especially when white is used for seating. The adaptability of decoration and other colors easily blends into themes ranging from classic to modern. The use of white does not interfere with other colors (does not clash) or disrupt the harmony of other colors and designs.

### Final Results

The finishing process for a modern angkringan cart involves ensuring an even paint finish and a consistent color. Various supporting components, including a waterproof canopy or roof, are installed to protect vendors from the sun and rain. Regular checks are carried out on the electrical system, wheels, brakes, engine, and cart strength, including motorcycle modifications. Motorcycle and cart safety checks are carried out to reduce road risks for both riders and customers.

The suspension is rechecked with and without a load (empty) before being filled with other equipment. Stability and mobility testing is conducted to ensure the motorcycle can move and turn smoothly and withstand varying terrain conditions. This includes testing stability when carrying a load, the ability of the wheels to turn smoothly, and durability when traversing different terrain.

Safety inspections are carried out by the mechanical department, particularly those related to motorcycle connections, such as hooks, hinges, and wheels, which are thoroughly checked to ensure everything is properly installed to reduce the risk of accidents. Furthermore, the table hinges and the modern angkringan cart canopy are ensured to open and close, as an effort to reduce the risk of head injuries to consumers and workers. LED lights are installed to attract customers at night, making it easier for consumers to identify the modern angkringan cart.



Figure 8. Product Realization

To enhance branding, efforts have been made to install logos and stickers using vinyl paper stickers (see image). Stickers are placed on the front, back, and sides with the aim of

creating a strong visual identity and attracting customers. Ensure that the menu board is in line with the established color scheme, made of wood, and using chalkboards to adjust prices if at any time there are changes or special price cuts, or the availability of out-of-stock menus.

## **DISCUSSION**

The design of a modern angkringan cart based on a three-wheeled motorcycle is an innovation rooted in functional needs and based on contemporary market aesthetics. The questionnaire results showing a dominant preference for the Modern concept (54%) are empirical evidence that the target market, especially millennials, prioritizes minimalism and efficiency. The design with cubic and symmetrical lines reflects a shift from intricate traditional ornamentation to a clean and sleek futuristic aesthetic. Academically, this approach aligns with the principles of modern industrial design that emphasize form follows function. The cart design aims not only for visual appeal but also to create an efficient workspace within the vehicle's limited space.

The choice of materials, such as hollow iron (40x40 and 20x20 sizes) and aluminum plate (1-2 mm) is not simply an economic choice, but rather the result of ergonomic and structural considerations. Interviews with workshop owners confirmed that these materials were chosen to ensure the strength and durability of the cart while maintaining a light weight to avoid compromising the stability of the motorcycle, especially when traversing uneven terrain as mentioned during field observations. These conditions indicate that every design element, from material selection to layout, is an interconnected decision to achieve operational efficiency and safety. However, the limited space in the motorcycle's body poses a challenge that requires further optimization of the interior design for ideal storage and workflow.

### **Branding Strategy and Color Psychology in Building a Strong Brand Identity**

The visual elements of this cart serve as a powerful and well-planned branding strategy. The use of a combination of red, yellow, and white demonstrates the practicality of color psychology in marketing. Red was chosen to attract attention and convey a sense of energy and boldness, which is particularly effective in a competitive urban environment. Yellow, with its associations with optimism and friendliness, aims to create an emotional connection with customers. Meanwhile, white, though simple, was chosen for the seating area to project an image of cleanliness and professionalism, important values in the culinary industry.

Beyond just color, this design utilizes graphic elements and vinyl stickers to transform the cart into a moving billboard. This concept significantly differentiates modern carts from traditional carts, which tend to be static and lack a distinct brand identity. This design thoroughly integrates functionality, aesthetics, and branding to create a competitive advantage. This aligns with modern marketing theory, which states that the consumer experience begins with visual appeal and brand image, not just the product itself.

### **Financial Analysis: Investment Feasibility and Long-Term Business Prospects**

The estimated total cost of Rp 50,500,000 represents a substantial initial capital investment. A cost analysis shows that the majority of the budget (approximately 50%) is allocated to purchasing a new motorcycle and its modifications. While this can be a barrier for traditional MSMEs, this investment should be viewed as strategic capital, providing operational

flexibility and significantly broader market reach. The high mobility afforded by a three-wheeled motorcycle allows sellers to reach new locations and dynamically respond to market demand, directly contributing to increased revenue potential and accelerated return on initial investment.

The budget realization, which shows a total actual cost of Rp 49,000,000, proves the existence of mature and realistic financial planning. The unused contingency fund of Rp 1,500,000, shows that the cost projection has taken various risks into account, so that the overall cost incurred is Rp 50,500,000. This analysis provides a strong argument that despite the relatively large initial capital, the concept of this angkringan cart business model offers better profitability and sustainability in the future.

## CONCLUSION

Based on the product design and cost estimates for the modern angkringan cart using a three-wheeled motorcycle, an innovative vintage design with modern aesthetics was achieved. The cart's increased flexibility and mobility are superior to traditional carts. The choice of high-quality materials such as hollow steel, aluminum plates, and wood contributes to the cart's durability. The red, yellow, and white color scheme provides a visually striking appeal. The estimated costs for creating the modern angkringan cart include the significant expense of purchasing the motorcycle, particularly because a new unit was used. Material costs, adjusted to current prices, are followed by expenses for painting, finishing, accessories, labor, and miscellaneous costs. The overall budget impacts the total expenditure. Future research or studies could evaluate the long-term performance of the chosen design to identify any weaknesses or shortcomings. This could involve observing the activities of the cart operator, as well as maintenance of both the cart and motorcycle, to ensure sustained functionality.

## REFERENCES

- [1] S. Santoso and J. Harsono. (2014, Maret). "Pola solidaritas kelompok pedagang angkringan di kota Ponorogo". *Sosiohumaniora* [Online]. vol. 16, no. 1, p. 87. Available: <https://doi.org/10.24198/sosiohumaniora.v16i1.5685>
- [2] DetikNews. (2018, Apr. 13). *Kearifan angkringan* [Online]. Available: <https://news.detik.com/kolom/d-3969893/kearifan-angkringan>
- [3] A.E.N. Rizali, E.F. Jasjfi, and R. Emmanaul. (2021, Okt.). "Tinjauan semiotik produk pada gerobak makanan ketoprak khas di Jakarta". *Jurnal Dimensi Seni Rupa dan Desain* [Online]. vol. 18, no. 1, pp. 41–56. Available: <https://doi.org/10.25105/dim.v18i1.10601>
- [4] Y. Sinatra. (2023, Okt.). "Fenomena angkringan pada hubungan sosial remaja di kota Mojokerto". *Jurnal Neo Societal* [Online]. vol. 8, no. 4, pp. 237–243. Available: <http://neosocietal.uho.ac.id/index.php/journal/article/view/24>
- [5] R.A. Reyhan, and R.W. Putra. (2022, Maret). "Perancangan buku ilustrasi kuliner angkringan dalam upaya mendukung potensi kuliner angkringan di daerah Pamulang". *PANTAREI* [Online]. vol. 6, no. 1. Available: <https://jom.fikom.budiluhur.ac.id/index.php/Pantarei/article/view/816>
- [6] M. Erstiawan. (2023, Jun). "Penerapan SAK-EMKM pada kesenian jaranan turonggo bimo Kertosono sebagai simbol budaya". *BIP's Jurnal Bisnis Perspektif* [Online]. vol. 12, no. 1, pp. 47–54. Available: <https://doi.org/10.37477/bip.v12i1.25>
- [7] L. Purwaningrum, A. Studiyan, A. Setiawan, R. Widayat, A. Faizin, and S. Mona Aryan. (2023, Nov.). "Desain gerobak jajanan rakyat siap saji dengan memperhatikan kegiatan pengguna sehingga dapat meluncurkan kegiatan produksi dan penjualannya serta

- mendukung promosi”. *JPM : Jurnal Pengabdian Mandiri* [Online]. vol. 2, no. 11, pp. 2267–2272. Available: <https://mail.bajangjournal.com/index.php/JPM/article/view/6880>
- [8] Y. Adrianto. (2024, Nov.). “Work table product design of multifunctional work table for workers in limited space (Case study: Puri Surya Jaya Cluster, Sidoarjo)”. *Meraki: Journal of Creative Industries* [Online]. vol. 2, no. 01, pp. 30–36. Available: DOI: <https://doi.org/10.24123/meraki.v2i01.6987>
- [9] D.Y. Riyanto, H. Budiarto, and F. F. Mahmud. (2020, Jan.). “Pengembangan desain produk tas kuliah yang efisien bagi mahasiswa desain di Stikom Surabaya”. *CandraRupa: Journal of Art, Design, and Media* [Online]. vol. 1, no. 1, pp. 7–14. Available: <https://doi.org/10.37802/candrarupa.v1i1.37>
- [10] T. Wahyuningsih and A. Ernawati. (2021). “Perbandingan estimasi anggaran biaya antara metode BOW, SNI dan kontraktor (Studi Kasus Proyek Sekolah dan Puskesmas)”. *Skala* [Online]. vol. 1, no. 1, pp. 1-8. Available: <https://journal.ummat.ac.id/index.php/skala/article/view/4222>
- [11] M.S. Erstiawan, and M. P. Wangi. (2023, June). “Peran anggaran dan realisasi anggaran produksi film independen dalam perspektif akuntansi”. *Efektor* [Online]. vol. 10, no. 1, pp. 132–147. Available: <https://doi.org/10.29407/e.v10i1.18667>
- [12] V.M. Widyadmono, and L.E. Wijayanti. (2023, Mar.). “Warung angkringan bertahan di tengah jaman: Membangun kepuasan melalui kualitas layanan”. *Jurnal Ekonomi Bisnis* [Online]. vol. 12, no. 1, pp. 36-46. Available: <https://www.jurnal.usahidsolo.ac.id/index.php/IAB/article/view/1257>
- [13] Y.R. Erstiawan, dan Y. Richo. (2022). “Implikasi corporate social responsibility dalam perspektif akuntansi pada subsektor telekomunikasi”. *Jurnal Sosial Sains* [Online]. vol. 2, no. 2, pp. 385–396. <https://doi.org/10.36418/sosains.v2i2.343>.
- [14] A.F. Hidayanto, and Y.F.S. Atmono (2023, Nov.). “Analisis visual kemasan kue gabin samarinda untuk pengembangan desain kemasan”. *Meraki: Journal of Creative Industries* [Online]. vol. 1, no. 1, pp. 12–22. <http://repository.usd.ac.id/id/eprint/46090>
- [15] J. Wibowo. (2021). “Efektivitas strategi pemasaran dan manajemen keuangan pada UMKM Roti”. *DIKEMAS* [Online]. vol. 5, no. 1. <https://doi.org/10.32486/jd.v5i1.574>
- [16] V.B. Jihad. (2017). Perencanaan bisnis kuliner angkringan (studi perencanaan bisnis pada angkringan keliling olin). [Online]. Available: <http://repository.widyatama.ac.id/xmlui/handle/123456789/14376>
- [17] D. Asmarandani (2018, Mar.). “Kion rokok di wilayah kaki lima studi bentuk-fungsi antropometri-ergonomi. *Prosiding Seminar Nasional Pakar* [Online]. pp. 111–116. Available: <https://doi.org/10.25105/pakar.v0i0.2707>
- [18] D. Maulana, and I. Binta. (2021, April). “Identifikasi teritorialitas kawasan angkringan kopi joss”. *Gewang: Gerbang Wacana dan Rancangan Arsitektur* [Online]. vol. 3, no. 1, pp. 13–17. Available: <https://ejurnal.undana.ac.id/index.php/gewang/article/view/4059>
- [19] M.S. Erstiawan. (2021, Sept.). “Kepatuhan Emiten dalam Taksnomi Extensible Business Reporting (XBRL)”. *CAPITAL: Jurnal Ekonomi dan Manajemen* [Online]. vol. 5, no. 1, pp. 71–85, 2021. Available: <https://doi.org/10.25273/capital.v5i1.10308>