Data Analysis and Decision-Making

BUS 225 Project Two Submission

Sales By Fuel

- The visual representation of car sales by fuel type is expected to show a positive trend for hybrid and electric vehicles.
- While gasoline consumption was robust in 2018, it is anticipated to level off by 2030.
- Consumers are opting for more manageable electric sources for their vehicles.
- The adoption of electric and hybrid vehicles is expected to rise due to their convenience, particularly regarding weather adaptability and ease of transport (Kirca et al., 2020).
- The demand for hybrid and electric vehicles is set to increase as consumers seek greater mobility and safety.



Trends in Motor Type

- Sales of different types of motors are on the rise.
- Hybrid vehicles are outperforming electric vehicles because they face fewer limitations than EVs.
- A significant number of car owners have reservations about fully electric vehicles.
- There is also the concern of becoming stranded due to a depleted battery.
- As people increasingly prefer devices that simplify and streamline their lives, the demand for hybrid cars is projected to grow.



Trend By Color



- The graphical representation illustrates the prevailing car color trends in North America.
- The data indicates that white is the most popular car color, followed closely by black and gray, and then silver.
- White is often linked to luxury and prestige, leading more people to opt for cars in this color.
- Given the association of white with high status, it is likely that the preference for white cars will continue to increase in the future.

Trend In Body Type



- The chart distinctly illustrates an upward trend in sales for trucks, vans, and SUVs.
- Conversely, it depicts a decline in sedan popularity, potentially due to safety concerns.
- Trucks and vans maintain near-equivalent popularity, offering comparable utilities.
- Importantly, SUVs are increasingly preferred for their higher seating position, which offers drivers a broader view of the road.

Expected Growth Areas

- The trend indicates that the demand for power generators in commercial, industrial, and residential environments is expected to keep growing.
- While the majority of users have traditionally utilized power sources at home, there has been an increase in demand across business and industrial sectors.
- This pattern is likely to persist as improvements in efficiency and preparedness are made, especially in response to severe weather conditions and power interruptions.



Sales by the Type of Product or Sevice

- The data in the graph indicates that hybrid power generators are projected to outperform single-source generators in upcoming sales.
- Consumers prefer hybrid generators due to their versatility in fuel options.
- Additionally, their portability makes them particularly convenient (Ghenai & Bettayeb, 2019).
- As hybrid generators gain popularity, the market share for single-source generators is expected to decline.



Trends in Customer Demands



- Consumers are increasingly attracted to generators that enhance both efficiency and user-friendliness.
- They seek generators that are easy to move and operate (Ryu et al., 2019).
- In such cases, hybrid generators are favored over single-source generators.

Summary

Recent trends in the new industry, specifically the automotive manufacturing sector in the United States, demonstrate a rising trajectory.

Hybrid vehicles and generators, known for their enhanced efficiency and practicality, are anticipated to gain popularity shortly.

Significantly, the preference for SUVs is on the rise, attributed to their superior safety features and build quality compared to sedans.

The data does not reveal potential shifts in these trends due to global disruptions like the Covid-19 pandemic, which has significantly impacted the industrial sector, as noted in the report.

It remains uncertain what alternative options exist for low-income individuals unable to afford hybrid power generators.

Rationale Model



This model involves making decisions grounded in evidence, analytical reasoning, and systematic processes.



It requires evaluating a wide range of options and choosing the most effective one.



The model is preferred when team members have sufficient time to explore various alternatives (Du et al., 2020).



Its objective is to optimize benefits while reducing expenses.



The Intuitive Model

- This approach is applied when rapid and decisive decisions are required in complicated scenarios.
 - The model prompts individuals to select a specific path to follow.
 - Before finalizing a decision, it involves assessing the constraints of the given context (Patalano et al., 2020).
- While the model is robust, effective decision-making requires considerable expertise and experience.

The Recognition-Primed Model



This model is employed when swift and effective decision-making is necessary in intricate situations.



Per this approach, an individual is required to establish a rationale for taking action.



This involves assessing the constraints of a particular situation before determining a plan of action.



While the framework is reliable, the decision-maker needs to possess a deep understanding of the subject and relevant skills.

Chosen Model





The rational model is the preferred choice among the available decision-making alternatives.

It allows the team sufficient time to create various decision options. The model outlines a structured, step-by-step procedure for decision-making.



It is especially effective for projects involving future projections, such as those related to automobile and generator trends.



The model is ideal for long-term planning, as it facilitates the examination of many possibilities, exemplified by target years like 2030, giving decision-makers enough scope to explore different scenarios.

References

•Du, X., Lu, Z., & Wu, D. (2020). An intelligent recognition model for dynamic air traffic decision-making. Knowledge-Based Systems, 199, 105274. https://doi.org/10.1016/j.knosys.2019.105274

•Ghenai, C., & Bettayeb, M. (2019). Modelling and performance analysis of a stand-alone hybrid solar PV/Fuel Cell/Diesel Generator power system for university building. Energy, 171, 180–189. https://doi.org/10.1016/j.energy.2019.01.019

•Kirca, A. H., Randhawa, P., Talay, M. B., & Akdeniz, M. B. (2020). The interactive effects of product and brand portfolio strategies on brand performance: Longitudinal evidence from the U.S. automotive industry. International Journal of Research in Marketing, 37(2), 421–439. https://doi.org/10.1016/j.ijresmar.2019.09.003

•Patalano, A. L., Zax, A., Williams, K., Mathias, L., Cordes, S., & Barth, H. (2020). Intuitive symbolic magnitude judgments and decision making under risk in adults. Cognitive Psychology, 118, 101273. https://doi.org/10.1016/j.cogpsych.2020.101273

•Ryu, H., Yoon, H.-J., & Kim, S.-W. (2019). Hybrid Energy Harvesters: Toward Sustainable Energy Harvesting. Advanced Materials, 31(34), 1802898. https://doi.org/10.1002/adma.201802898