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Optimizing Vehicle Inspection Process: A Case Study at A Certain Company in Malaysia

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ABSTRACT

This study focuses on optimizing the vehicle inspection process at one of the Automotive E-Commerce Platforms in Malaysia. The current inspection process, comprising 251 checkpoints, has led to inefficiencies including prolonged customer wait times, inspector fatigue, and operational delays. Prolonged inspections not only lead to customer dissatisfaction but also strain inspectors, ultimately reducing overall efficiency. Through systematic analysis and stakeholder feedback, non-essential inspection points were identified and removed without compromising safety or performance assessments. The study employed data collection methods, including surveys and time-tracking, to evaluate the effectiveness of reducing unnecessary inspections. The implementation of an optimized inspection process led to an 18-minute reduction in total inspection time, improving both operational efficiency and customer satisfaction. The findings suggest that eliminating non-critical inspections enhances workflow without compromising the quality of vehicle assessments. Additionally, inspectors reported decreased fatigue, leading to increased accuracy and productivity. The optimization also enhanced customer experience by reducing waiting times, leading to higher satisfaction levels. These results highlight the importance of streamlining operational procedures in vehicle inspection to maximize efficiency. Future studies could explore automation and AI-driven solutions to further enhance inspection accuracy and reduce processing time.

Keywords: Vehicle inspection, Process optimization, Operational efficiency, Customer satisfaction, Inspector fatigue.

1. INTRODUCTION

The global automotive industry has undergone a rapid transformation in recent years, driven by digital technologies, evolving consumer expectations, and the rise of e-commerce platforms [1-3]. Traditionally, the buying and selling of used vehicles occurred primarily through physical dealerships and independent traders, where trust between buyer and seller was often established through personal interaction. Today, with transactions increasingly shifting online, establishing trust relies heavily on transparent vehicle inspections, which make buyers feel secure even when there is no face-to-face contact [4]. In Malaysia, as in many parts of Southeast Asia, the automotive e-commerce sector has grown significantly. Consumers are increasingly comfortable engaging in large financial transactions online, provided that sufficient transparency, efficiency, and safeguards are in place. Within this context, vehicle inspection reports play a critical role in bridging the information gap between buyers and sellers. Without credible inspections, uncertainty in product quality can undermine trust and weaken market efficiency, as explained by Akerlof's (1970) 'market for lemons' theory [5].

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Vehicle inspection has long been regarded as a cornerstone of road safety and consumer protection. Regulatory bodies worldwide mandate periodic inspections to ensure roadworthiness and reduce accidents caused by mechanical failures [6-9]. In Malaysia, both private and commercial vehicles are subject to inspections that assess key systems, including brakes, suspension, tires, lighting, and emissions [10]. Beyond their regulatory function, inspections in the used-car sector also play a market role: they reduce information asymmetry and facilitate informed decision-making. Buyers, who often lack the technical expertise to independently evaluate a vehicle's condition, rely heavily on inspection reports to assess risks and make confident purchasing decisions. While vehicle inspections are critical to building trust, they are also resource-intensive. Most established inspection centers employ highly detailed checklists that cover multiple aspects of a car's condition, including exterior, interior, undercarriage, and on-road performance [11-14]. These checklists often extend to more than 150 individual points, ranging from safety-critical systems like brakes and steering to cosmetic features such as upholstery and accessories. The rationale behind such comprehensiveness is to leave no aspect of the vehicle unexamined, thereby maximizing transparency. Yet this comprehensiveness comes at a cost: lengthy, labor-intensive, and sometimes redundant inspection processes. This study focuses on one such inspection center in Malaysia that employed a 251-point checklist. While thorough, the process was frequently criticized by customers for taking too long, often extending close to an hour. For customers, such delays were frustrating and inconvenient.

From the perspective of inspectors, the prolonged process contributed to physical and cognitive fatigue [15,16]. Fatigue during demanding tasks is a well-known problem in human factors research, as sustained attention to repetitive tasks often leads to performance degradation [17-19]. In this context, lengthy inspections not only slowed down operations but also risked compromising the accuracy and reliability of the results. Management perspectives, on the other hand, reflected a recognition of both sides of the issue. On one hand, comprehensive inspections were seen as critical to maintaining credibility and ensuring that vehicles were properly evaluated. On the other hand, it became increasingly clear that not all inspection points contributed equally to customer decision-making, vehicle safety, or pricing accuracy. Many cosmetic or easily replaceable components were included in the checklist despite offering limited value. For instance, minor scratches, emblem conditions, or specific interior details were unlikely to affect resale value or customer trust, yet they consumed substantial inspection time.

While previous studies have examined regulatory vehicle inspections, little attention has been given to optimizing commercial e-commerce vehicle inspections in Malaysia. With the rapid growth of online automotive platforms, improving inspection efficiency has become essential for maintaining customer trust and operational performance. This study was therefore undertaken to optimize the vehicle inspection process at an automotive e-commerce inspection center in Malaysia. The central research question was whether inspection times could be reduced to meet customer expectations and improve inspectors' well-being, without compromising safety, credibility, or organizational reputation. The study employed a mixed-methods approach, combining quantitative experiments with qualitative surveys to capture perspectives from customers, inspectors, and managers. The significance of this research extends beyond the case of one inspection center. It highlights broader lessons for the automotive e-commerce industry, where balancing comprehensiveness and efficiency is critical. While thoroughness in inspection ensures credibility, efficiency ensures customer satisfaction and operational sustainability. Both are necessary for building trust and achieving a competitive advantage in digital marketplaces. By identifying and excluding non-value-adding tasks, inspection centers can streamline operations while still meeting the core expectations of customers, employees, and managers.

2. METHODOLOGY

The methodology of this study was carefully designed to systematically investigate the inefficiencies in the existing vehicle inspection process and to evaluate the potential benefits of streamlining non-critical inspection points. A mixed-methods approach was employed, combining both quantitative experiments (time trials before and after optimization) and qualitative surveys (feedback from management personnel, inspectors, and customers). This approach provided a holistic understanding of the problem, incorporating not only measurable improvements in inspection duration but also stakeholder perspectives on customer satisfaction, employee fatigue, and organizational reputation.

2.1 Research Design

The procedural steps of this study were systematically structured to enable an in-depth examination of the existing vehicle inspection process. The research was divided into three sequential phases:

1. Exploratory phase – This initial stage involved identifying specific inefficiencies within the current inspection protocol and gathering preliminary feedback from management personnel regarding which inspection points could be retained and which could be excluded.
2. Assessment phase – This phase involved administering surveys to customers, inspectors, and management to assess the existing inspection process across key metrics, including customer satisfaction, inspector fatigue, and the overall perceived reputation of the service.
3. Experimental phase – The final stage comprised conducting empirical tests to measure vehicle inspection durations before and after the exclusion of selected non-critical points, within a controlled research environment.

This systematic approach ensured that optimization was not implemented arbitrarily but was grounded in both empirical data and stakeholder validation. The procedural flowchart is shown in Figure 1.

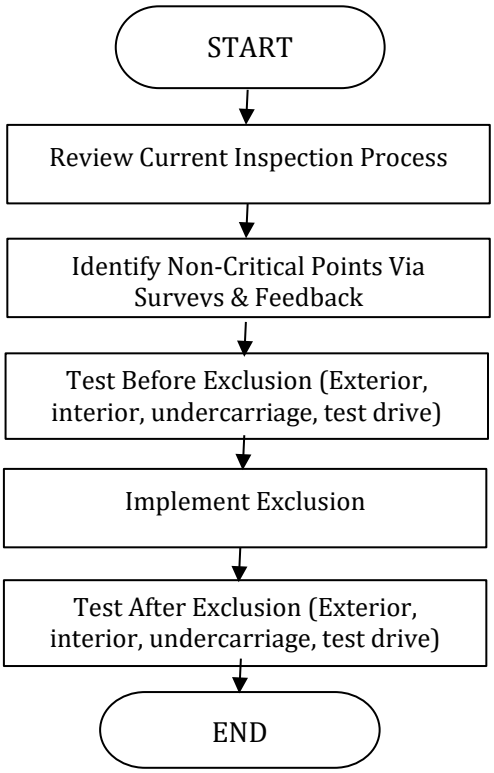

Figure 1: Complete workflow of the vehicle inspection process.

2.2 Identification of Inspection Points

The starting point of the study was the 251-point checklist currently employed by vehicle inspectors. This checklist covers the vehicle's:

- Exterior: Scratches, dents, paint quality, emblems, glass, lighting, tire condition, etc.
- Interior: Upholstery, seat belts, electronics, dashboard functions, air-conditioning, cosmetic details, etc.
- Undercarriage: Suspension, exhaust, brake pads, hoses, fluid levels, etc.
- Test drive: Engine performance, braking, steering, transmission, etc.

While comprehensive, the checklist was criticized by inspectors as excessively detailed, with many points contributing little to customer decision-making or vehicle safety. Drawing on feedback from management, the study classified the inspection points into two categories:

1. Critical points – Directly related to safety, performance, and resale value (e.g., brakes, accident damage, engine performance).
2. Non-critical points – Primarily cosmetic or easily replaceable features (e.g., scratched emblems, minor stains, cabin lights, washer fluid levels).

The latter category was deliberately targeted for exclusion as part of efforts to streamline the overall inspection process. By removing these non-essential elements, management expressed confidence that the time required to complete a full inspection could be significantly reduced, with the expectation that the duration would fall below the 40-minute threshold.

2.3 Data Collection Methods

For this study, data were collected using three complementary methods, each designed to capture distinct yet interrelated aspects of the vehicle inspection process. These three methods were as follows:

2.3.1 Surveys and Questionnaires

Surveys were designed using Google Forms and distributed among three groups of stakeholders:

- Management Personnel (4 respondents): Quality control officer, retail manager, and two assistant retail managers.
- Inspectors (10 respondents): Certified inspectors responsible for conducting daily inspections at one of the automotive e-commerce inspection centers in Malaysia.
- Customers (41 respondents): Individuals who brought their vehicles for inspection during the study period.

Each survey was tailored to the respondent group. Management was asked about the feasibility of excluding specific inspection points, inspectors were asked about fatigue and workload, and customers were asked about waiting times and service satisfaction. It should be noted that the sample sizes were relatively small. These numbers were determined by the actual operational team composition and customer volume during the study period.

2.3.2 Experimental Time Trials

To quantify the effect of excluding non-critical inspection points, controlled experiments were conducted using a 2017 Perodua Myvi 1.5 SE as the case study vehicle. The Myvi was selected for the test because it is one of the most popular and widely used car models in Malaysia, providing a practical benchmark for inspection duration comparisons. The same certified inspector, with

three years of experience, conducted inspections both before and after optimization to control for skill variability. A smartphone stopwatch application (Honor X9A 5G) was used to record precise inspection times to the millisecond. The inspection was divided into four categories:

- Exterior inspection
- Interior inspection
- Undercarriage inspection
- Test drive

Baseline times were first recorded using the complete 251-point checklist, and then inspections were repeated with the non-critical points excluded.

3. RESULTS AND DISCUSSION

The results of this study are presented in three parts: (1) the findings of the surveys administered to management, inspectors, and customers, (2) the outcomes of the time trials conducted before and after the exclusion of non-critical inspection points, and (3) the integration of these findings to assess the overall impact of the optimized inspection process on operational efficiency, employee well-being, and customer satisfaction.

3.1 Survey Results

3.1.1 Management Feedback

Four members of management participated in the survey regarding the exclusion of non-critical inspection points. Their unanimous agreement supported the optimization initiative, with the following key insights:

- Quality control officer: Affirmed that excluded points were not critical to dealer evaluations and that their omission would not harm the company's reputation.
- Retail manager: Highlighted that many excluded points, such as wear-and-tear items, were not factored into customer pricing decisions.
- Assistant retail managers: Stated that excluded components were often repaired or replaced in the business-to-consumer (B2C) resale process, making their inclusion in the inspection unnecessary.

This management consensus indicated that the optimized process preserved organizational credibility and aligned with the strategic goals of operational efficiency.

3.1.2 Inspector Survey

Ten inspectors at the Bayan Lepas branch completed the survey. The results revealed high levels of fatigue under the existing system and broad support for the optimization:

- Fatigue levels: 80% of inspectors reported experiencing fatigue several times daily due to the 251-point inspection.
- Impact on accuracy: A majority admitted that fatigue reduced their ability to maintain focus, increasing the likelihood of inspection errors.
- Support for Optimization: Nearly all inspectors indicated that reducing non-critical points would be "highly effective" in alleviating fatigue and improving inspection accuracy.

These findings emphasize the human factor dimension of the problem: Long and repetitive inspections not only slowed operations but also compromised inspector performance and job satisfaction.

3.1.3 Customer Survey

Forty-one customers were surveyed to assess satisfaction with current waiting times and acceptable tolerances for inspection duration. The results are as follows:

- Satisfaction with current wait: 92.7% of customers expressed dissatisfaction with waiting more than 50 minutes for inspections.
- Actual wait times: 48.8% of respondents reported waiting more than an hour, while most others reported waits of 50–60 minutes.
- Tolerance levels: 73.2% of respondents indicated they could tolerate waiting 30–40 minutes for inspections. Only a small minority accepted waits longer than 50 minutes.

These results highlight the clear service gap between customer expectations and the current inspection duration. This significant dissatisfaction points to the critical need for process optimization to enhance customer experience and operational efficiency within the automotive after-sales service sector [20].

3.2 Time Trial Results (Inspection Duration: Baseline vs. Optimised)

The inspection duration was measured under two conditions: (i) the full 251-point checklist (baseline), and (ii) the optimized checklist with non-critical points excluded. Both inspections were conducted on the same vehicle by the same certified inspector, using a stopwatch application to ensure consistent and precise time measurement. Table 1 compares inspection times between the baseline and optimized processes, showing a notable reduction in overall inspection duration from excluding non-critical items. The comparison of inspection duration before and after optimization is illustrated in Figure 2, which complements the data presented in Table 1.

Table 1: Inspection duration (before and after optimization).

Inspection stage	Baseline duration (Full checklist)	Optimized duration (Excluding non-Critical points)	Time reduction
Exterior inspection	20 min 37 s	15 min 45 s	4 min 52 s
Interior inspection	22 min 22 s	14 min 57 s	7 min 25 s
Undercarriage	10 min 04 s	6 min 27 s	3 min 37 s
Test drive	2 min 36 s	2 min 59 s	Increase of 23 s
Total	55 min 39 s	38 min 08 s	17 min 31 s (31.5% faster)

The results demonstrate that the most significant time savings occurred in the interior inspection (a reduction of 7 minutes and 25 seconds) and the exterior inspection (a reduction of 4 minutes and 52 seconds). These reductions are attributed to the exclusion of checks on cosmetic details and non-essential electronics. The undercarriage inspection was also shortened by 3 minutes and 37 seconds due to the removal of detailed wear-and-tear assessments that did not directly impact immediate safety.

Interestingly, the test drive duration slightly increased by 23 seconds in the optimized process. This variation was primarily attributed to temporary road congestion during the second trial,

rather than to any inherent inefficiency in the revised procedure. To ensure the validity of this observation, the test was repeated under similar conditions, and the results remained consistent with the previous trial, confirming that the minor delay was due to external factors rather than the inspection system itself. The congestion event was unexpected and beyond experimental control. Moreover, the results do not indicate a systemic increase in duration. In the absence of congestion, it is expected that a shorter test drive time will be achieved, reducing the overall inspection duration after optimization.

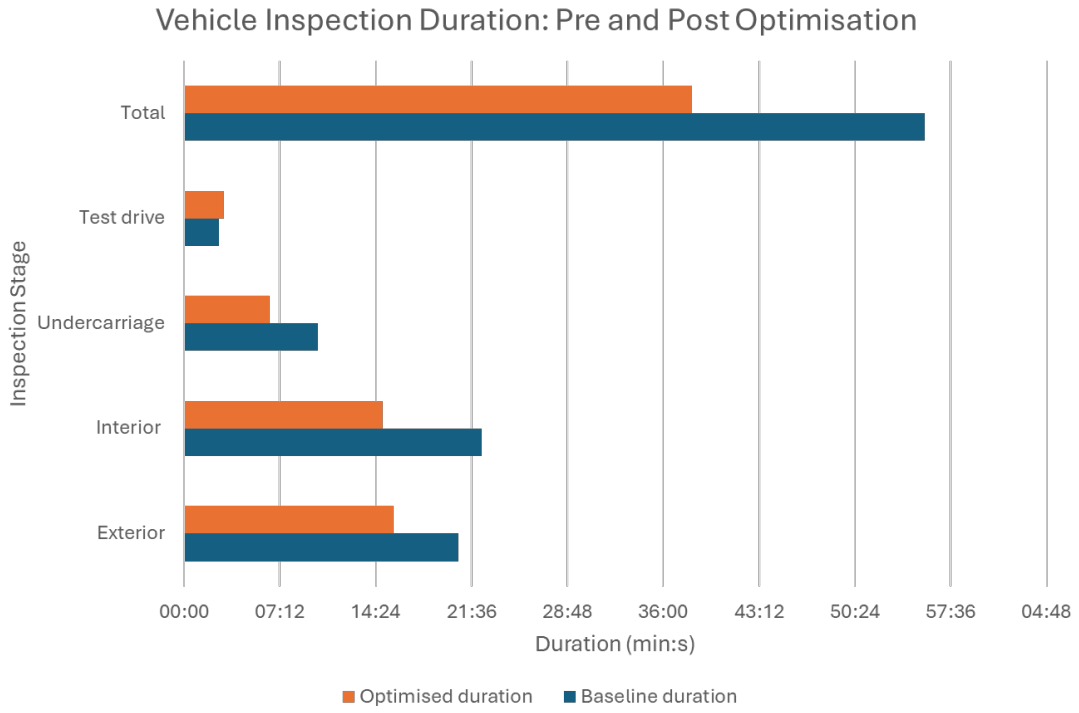

Figure 2: Comparison of inspection duration before and after optimization.

The baseline results highlighted the excessive duration of nearly one hour, which was inconvenient for customers and physically demanding for inspectors. After optimization, inspection time was reduced by 17 minutes and 31 seconds, representing a 31.5 percent improvement in efficiency without compromising critical quality checks.

Overall, the results validate the hypothesis that inspection time could be reduced to under 40 minutes without compromising the integrity of the evaluation process. The new average aligns with customer expectations, as most respondents indicated tolerance for a 30–40 minutes wait time.

3.3 Integrated Findings

The integration of experimental and survey data demonstrates the effectiveness of the optimized inspection process across three key dimensions:

1. Operational efficiency: Time trials confirmed a reduction of nearly 18 minutes per inspection, enabling more vehicles to be processed daily and reducing queue lengths. This aligns with lean principles of eliminating waste and focusing on value-adding activities.
2. Inspector well-being: Survey responses from inspectors confirmed that reducing non-critical points alleviated fatigue, improved concentration, and decreased the likelihood of errors. This suggests that optimization enhances both productivity and quality. The observed reduction

in inspector fatigue aligns with prior human factors research emphasizing the negative impact of repetitive, cognitively demanding tasks on accuracy and performance [17–19].

3. Customer satisfaction: Customer surveys revealed widespread dissatisfaction with long waits under the existing system, but strong acceptance of the optimized process duration. By aligning inspection times with customer expectations, the optimization directly improved perceived service quality and brand trust.

While optimizing inspection procedures yields significant efficiency gains, excessive reduction in inspection points may increase the risk of overlooking latent or intermittent defects that could compromise safety or reliability. For instance, cosmetic components may sometimes conceal early indicators of deeper mechanical wear, such as minor surface corrosion or unusual vibrations. To minimize such risks, inspection centres can implement a tiered inspection framework, in which the optimized checklist is used for routine operations, but vehicles that show anomalies or "red-flag" conditions (e.g., abnormal noise, accident history, or fluid leakage) automatically trigger a secondary, detailed inspection. Additionally, periodic full-scope audits can also be introduced to validate the effectiveness of the streamlined process and ensure that critical quality indicators remain within acceptable limits.

3.4 Limitations of the Results

While the results strongly support the case for optimization, several limitations must be acknowledged:

- Single-vehicle model: The time trials were conducted with one vehicle type (Perodua Myvi). Larger vehicles with more complex systems may require different adjustments.
- Controlled testing environment: Inspections were conducted outside regular working hours to avoid disrupting operations. Real-world conditions, such as multiple simultaneous inspections, may affect results.
- Sample size: The customer (n=41) and inspector (n=10) surveys provided valuable insights but may not fully represent the e-commerce company's customer base or workforce. Larger-scale studies would provide stronger generalizability.
- It should be acknowledged that customer responses may be subject to social desirability bias, particularly because some surveys were conducted on-site in the presence of staff. To mitigate this, respondents were assured that their answers would remain confidential and would not affect service outcomes.

4. CONCLUSION

This study sets out to investigate the inefficiencies of the studied company's existing 251-point vehicle inspection process and to evaluate whether optimization could improve operational efficiency, reduce inspector fatigue, and enhance customer satisfaction. Through a combination of time trials, surveys, and stakeholder validation, the research confirmed that the original process was excessively detailed, with many inspection points contributing little to decision-making, pricing accuracy, or customer trust. The empirical findings demonstrated that by excluding non-critical inspection points, inspection times were reduced from an average of 55 minutes and 39 seconds to 38 minutes and 8 seconds. This reduction of over 17 minutes represented a 31.5% improvement in efficiency, enabling inspections to be completed within the 30–40 minutes tolerance range identified by customers.

From the perspective of inspectors, the optimized process directly addressed issues of fatigue and cognitive overload, allowing them to focus on safety-critical tasks while minimizing repetitive or redundant checks. Survey responses confirmed that most inspectors experienced fatigue

under the original system, which often reduced concentration and accuracy. The streamlined process therefore, improved both productivity and quality of inspections.

For customers, the shorter inspection time resolved the most frequently cited complaint: excessive waiting. More than 90% of customers surveyed expressed dissatisfaction with waiting over 50 minutes, but most accepted waits of 30–40 minutes. By aligning with these expectations, the optimized process not only improved satisfaction but also enhanced brand trust and service credibility.

From a managerial standpoint, all four management respondents supported excluding non-critical points, affirming that these items had no significant impact on resale pricing or organizational reputation. This consensus provided strong internal validation for the optimization effort, ensuring that the changes were strategically sound and did not compromise the company's credibility in the marketplace.

In sum, the research demonstrated that the optimization initiative successfully balanced three critical dimensions: operational efficiency, employee well-being, and customer satisfaction. The optimization framework demonstrated in this study offers a scalable model for other branches of the same organization and similar automotive e-commerce inspection centres. Implementation across multiple sites could enhance throughput and customer experience nationwide. Furthermore, the streamlined process could integrate with digital inspection tools, mobile data capture, and AI-based defect recognition systems to enhance accuracy and traceability.

For future studies, integrating automation, computer vision, and predictive analytics should be explored to further enhance the reliability and efficiency of vehicle inspections. Expanding the dataset to include multiple vehicle types, larger sample sizes, and varied inspection environments would also improve the generalisability of the findings.

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REFERENCES

[1] Llopis-Albert, C., Rubio, F., & Valero, F. Impact of digital transformation on the automotive industry. Technological forecasting and social change, vol 162 (2021) p. 120343.
[2] Braidy, A., Pokharel, S., & ElMekkawy, T. Y. Research Perspectives on Innovation in the Automotive Sector. Sustainability, vol 17, issue 7 (2025) p. 2795.
[3] Walker, S. The Evolution of automotive E-commerce and digital retail. CDK (2023). Retrieved from https://www.cdkglobal.com/insights/evolution-automotive-e-commerce-and-digital-retail.
[4] Li, X., Ma, J., Zhou, X., & Yuan, R. Research on consumer trust mechanism in China's B2C e-commerce platform for second-hand cars. Sustainability, vol 15, issue 5 (2023) p. 4244.
[5] Akerlof, G. A. The market for "lemons": Quality uncertainty and the market mechanism. The quarterly journal of economics, vol 84, issue 3 (1970) pp. 488-500.
[6] Schulz, W. H., & Franck, O. An empirical study to estimate the economic effects of the introduction of a periodical technical inspection (PTI) for motor vehicles in Punjab (Pakistan). The Open Transportation Journal, vol 15, issue 1 (2021) pp. 182-193.
[7] Habte, O. A., & Holm, H. J. Competition makes inspectors More lenient: evidence from the motor vehicle inspection market. Review of Industrial Organization, vol 61, issue 1 (2022) pp. 45-72.

[8] Blundell, W., Gowrisankaran, G., & Langer, A. Escalation of scrutiny: The gains from dynamic enforcement of environmental regulations. American Economic Review, vol 110, issue 8 (2020) pp. 2558-2585.
[9] Duflo, E., Greenstone, M., Pande, R., & Ryan, N. The value of regulatory discretion: Estimates from environmental inspections in India. Econometrica, vol 86, issue 6 (2018) pp. 2123-2160.
[10] Nurul. PUSPAKOM Vehicle Inspections: What You Need to Know. Bijak (2022). Retrieved from https://bjak.my/blog/puspakom-vehicle-inspections-what-you-need-to-know.
[11] Carro. 160-point inspection list. (n.d.). Retrieved September 30, 2025, from https://carro.co/my/en/carro-certified-inspectionpoints.
[12] Carsome. Carsome certified lab. (n.d.). Retrieved September 30, 2025, from https://www.carsome.my/carsome-certified-lab.
[13] Vims. How Used Car Inspections Benefit You. (n.d.). Retrieved September 30, 2025, from https://vims-asia.com/how-used-car-inspections-benefit-you/.
[14] JPJ. Puspakom 10 points vehicle inspection. (n.d.). Retrieved September 30, 2025, from https://jpj.my/puspakom_inspections/puspakom_10_points_vehicle_inspection.htm.
[15] Caldwell, J. A., Caldwell, J. L., Thompson, L. A., & Lieberman, H. R. Fatigue and its management in the workplace. Neuroscience & Biobehavioral Reviews, vol 96 (2019) pp. 272-289.
[16] Abd-Elfattah, H. M., Abdelazeim, F. H., & Elshennawy, S. Physical and cognitive consequences of fatigue: A review. Journal of advanced research, vol 6, issue 3 (2015) pp. 351-358.
[17] Behrens, M., Gube, M., Chaabene, H., Prieske, O., Zenon, A., Broscheid, K. C., & Weippert, M. Fatigue and human performance: an updated framework. Sports medicine, vol 53, issue 1 (2023) pp. 7-31.
[18] Banks, S., Landon, L. B., Dorrian, J., Waggoner, L. B., Centofanti, S. A., Roma, P. G., & Van Dongen, H. P. Effects of fatigue on teams and their role in 24/7 operations. Sleep medicine reviews, vol 48 (2019) p. 101216.
[19] Hanzal, S., Learmonth, G., Thut, G., & Harvey, M. Probing sustained attention and fatigue across the lifespan. PloS one, vol 19, issue 7 (2024) p. e0292695.
[20] Titu, A. M., Grecu, D., Pop, A. B., & Şugar, I. R. Service process modeling in practice: A case study in an automotive repair service provider. Applied Sciences, vol 15, issue 8 (2025) p. 4171.

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