

Applied Leadership and Management Outreach

Module Assignment Submission

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Define a complex problem in the workplace, including its scope and impact.

Scope: The complex problem centres around the severe shortage of skilled car mechanics in the automotive repair industry.

Impact:

The shortage of car mechanics has wide-ranging implications, affecting not only the efficiency and profitability of car repair shops but also vehicle safety, customer satisfaction, and the broader economy of Swansea.

Key Aspects of the Complex Problem around shortages of skilled mechanics.

Skilled Labour Shortage: The automotive repair industry faces a shortage of skilled car mechanics. This scarcity includes both entry-level mechanics and experienced technicians with specialized knowledge in areas like electric vehicles, hybrid systems, and advanced diagnostics.

Safety Concerns: Inadequate staffing levels can lead to rushed repairs and decreased attention to detail, potentially compromising the safety of vehicles on the road. This poses risks to both motorists and pedestrians.

Increased Repair Times: With fewer mechanics available, car repair shops experience longer repair times. This can frustrate customers and result in lost business opportunities due to delayed service deliveries.

Higher Labour Costs: The shortage of mechanics can drive up labour costs as shops compete for a limited pool of skilled workers, affecting the profitability of repair businesses and potentially leading to higher prices for consumers.

Quality Control: Maintaining consistent quality in repairs becomes challenging when there is a shortage of skilled mechanics, potentially leading to an increase in comebacks or warranty claims.

Customer Satisfaction: Longer wait times for repairs and lower service quality can lead to dissatisfied customers, damaging the reputation of the repair shop and reducing customer loyalty.

Technological Advancements: The automotive industry is rapidly evolving, with the introduction of electric and autonomous vehicles. A shortage of mechanics with expertise in these technologies can hinder the industry's adaptation and competitiveness.

Economic Impact: The automotive repair industry is a significant contributor to the economy. A shortage of mechanics can have a cascading effect on suppliers, parts manufacturers, and other related businesses, potentially leading to job losses and reduced economic growth.

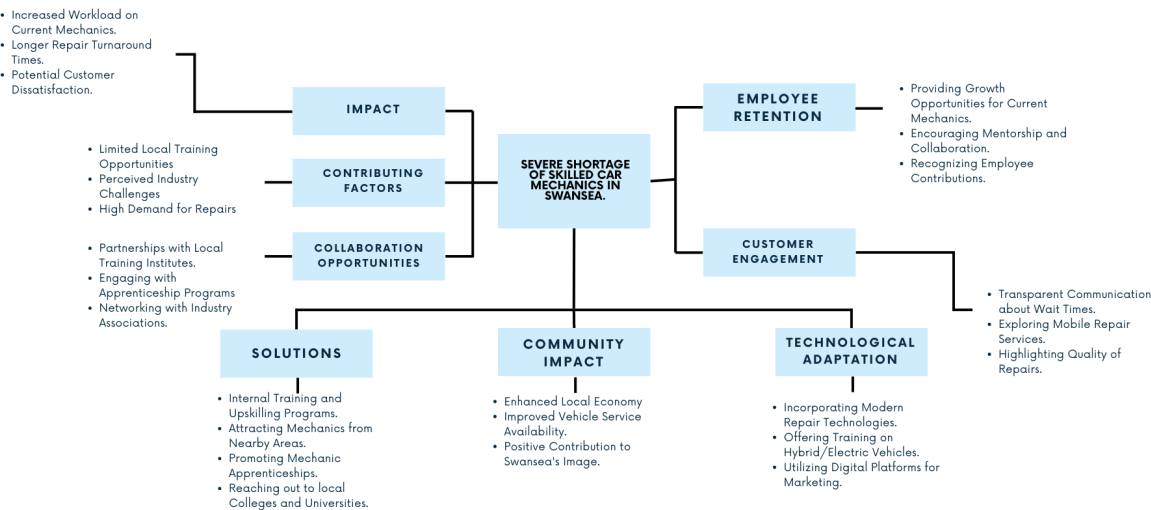
Training and Development: Addressing the shortage requires investment in training and development programs to attract and retain talent. These programs need to keep pace with technological advancements in the automotive industry.

Regulatory Compliance: In some regions, regulatory requirements demand specific qualifications for car mechanics.

Diversity and Inclusion: The automotive repair industry traditionally lacks diversity. Encouraging a diverse and inclusive workforce can help address the labour shortage by tapping into underrepresented talent pools.

MIND MAP

SHORTAGE OF CAR MECHANICS IN AUTOMOTIVE REPAIR INDUSTRY IN SWANSEA.



Addressing this complex problem requires an outreach program to develop strategies for attracting, training, and retaining skilled car mechanics. Additionally, it involves staying up to date of technological advancements and adapting workforce development programs accordingly to ensure the long-term sustainability of the automotive repair industry and the safety of vehicles on the road.

Analyse information on the identified problem, to help inform the decision-making process.

Analysing information about the shortage of skilled car mechanics in the automotive repair industry is key for making informed decisions on how to address this complex problem effectively. I will break down the information into key points to inform the decision-making process:

Extent of the Shortage:

- Determine the severity of the shortage in my specific region or market.
- Collect data on the number of open mechanic positions compared to the available workforce.
- Identify which segments of the industry (e.g., independent repair shops, dealerships, specialty shops) are most affected.

Causes of the Shortage:

- Investigate the root causes of the shortage. Is it due to lack of interest among new talent, a skills gap, or other factors like the possible retirement of experienced mechanics.
- Lack of colleges and universities within a given area training new people.
- Bigger garages paying more money further afield in other parts of the UK and the world.

Impact Analysis:

- Quantify the impact of the shortage on repair shop operations, such as longer repair times, increased labour costs, and potential revenue losses.
- Assess the impact on vehicle safety, customer satisfaction, and the broader economy, considering the economic contribution of the automotive repair industry.

Customer Feedback:

- Gather feedback from customers to understand their experiences with repair shops affected by the mechanic shortage. Identify pain points and areas where service quality may have declined.

Economic Impact:

- Examine the economic consequences of the shortage, including job losses, reduced business growth, and the potential for price increases in the repair industry.

Training and Education Programs:

- Evaluate the effectiveness of existing mechanic training and education programs. Are they aligned with industry needs and technological advancements?
- Identify areas for improvement in training, such as adding programs for electric and hybrid vehicle repair.

Regulatory and Certification Requirements:

- Review local and national regulations related to mechanic certifications and qualifications.
- Determine if there are any barriers to entry for new mechanics and how these might contribute to the shortage.

Technological Advancements:

- Assess how technological advancements in the automotive industry impact the skills and knowledge required by mechanics.
- Explore opportunities for leveraging technology to enhance mechanic training and workflow efficiency.

Diversity and Inclusion:

- Examine diversity and inclusion efforts within the automotive repair industry. Assess whether these initiatives are effectively broadening the talent pool.
- Identify best practices from organizations that have successfully diversified their workforce.

Long-Term Solutions:

- Developing a strategic plan for addressing the shortage, including short-term and long-term solutions.
- Consider partnerships with educational institutions, apprenticeship programs, and incentives for attracting and retaining skilled mechanics.

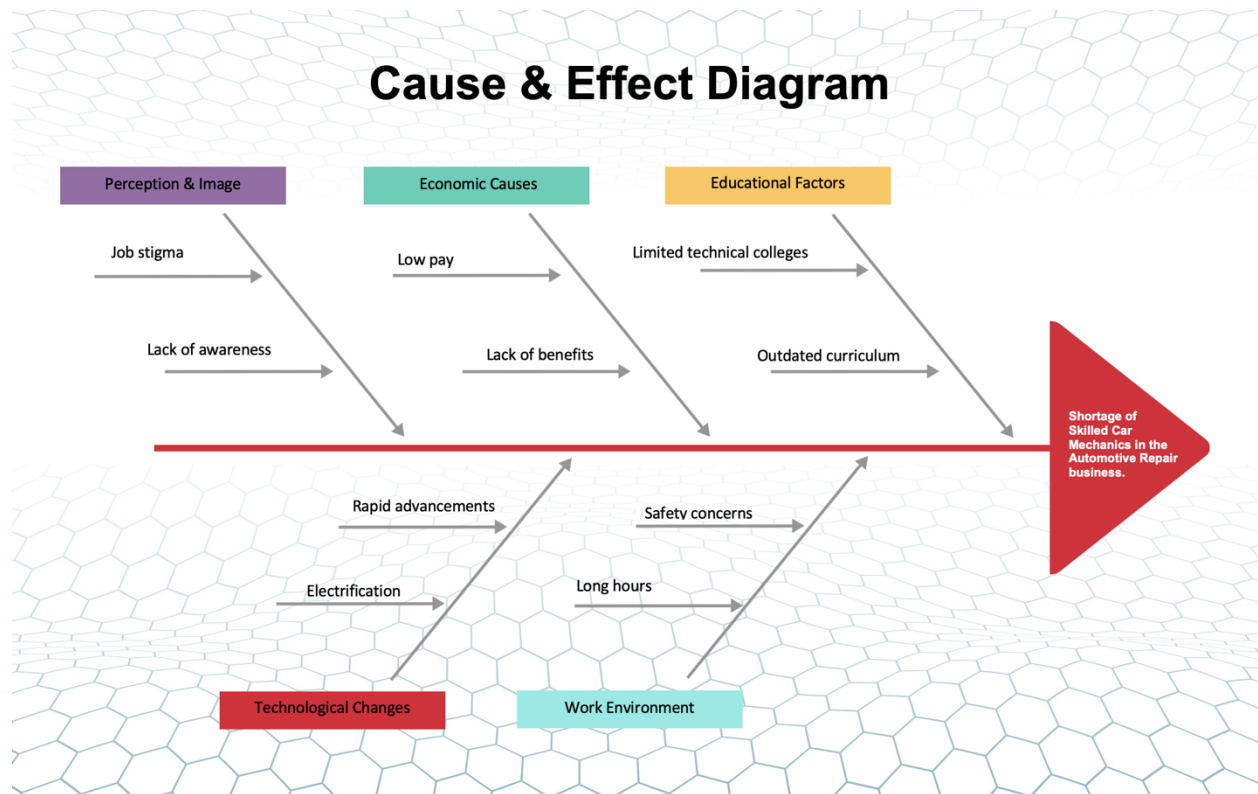
Monitoring and Evaluation:

- Establish key performance indicators (KPIs) to track progress in addressing the shortage.
- Implement a system for ongoing monitoring and evaluation of workforce development initiatives.

Communication and Public Relations:

- Develop a communication strategy to inform stakeholders, including customers, about efforts to address the shortage and improvements in service quality.

By systematically analysing this information, decision-makers can gain a comprehensive understanding of the problem and make data-driven choices to mitigate the shortage of skilled car mechanics.



Propose a range of alternative solutions to the problem.

Addressing the shortage of skilled car mechanics in the automotive repair industry requires a multi-layered approach.

1. Expand Mechanic Training Programs:

- Increase funding for vocational and technical colleges to expand mechanic training programs.
- Create partnerships between repair shops and educational institutions to offer apprenticeships and on-the-job training.

2. Targeted Recruitment Efforts:

- Launch targeted marketing campaigns to attract more individuals, including women and minorities, to consider careers in automotive repair.

- Offer scholarships and incentives for students pursuing automotive-related courses.
- 3. **Online Training and Certification:**
 - Develop and promote online training platforms that allow aspiring mechanics to gain certification and skills remotely.
- 4. **Mentorship Programs:**
 - Establish mentorship programs where experienced mechanics guide and train new recruits.
 - Encourage retired mechanics to participate in mentorship programs to pass on their knowledge.
- 5. **Cross-Training in Emerging Technologies:**
 - Implement cross-training programs to equip existing mechanics with skills for repairing electric and hybrid vehicles.
 - Provide resources and incentives for mechanics to become proficient in handling advanced vehicle technologies.
- 6. **Diversify Entry Pathways:**
 - Create alternative entry pathways into the profession, such as fast-track programs for experienced technicians from related industries.
 - Develop bridge programs that allow individuals with transferable skills to transition into auto repair careers.
- 7. **Enhance Industry Collaboration:**
 - Establish industry-wide standards for mechanic training and certification.
- 8. **Technological Integration:**
 - Invest in diagnostic and repair technologies that can enhance the efficiency of existing mechanics, potentially reducing the need for additional staff.
 - Develop and promote digital platforms for remote troubleshooting and guidance.
- 9. **Retention Strategies:**
 - Implement retention strategies such as competitive wages, benefits packages, and career advancement opportunities to retain skilled mechanics.
 - Encourage a positive work culture that fosters job satisfaction and loyalty.
- 10. **Public Awareness Campaign:**
 - Launch public awareness campaigns to educate consumers about the importance of proper vehicle maintenance and the role of skilled mechanics.
- 11. **International Recruitment:**
 - Explore international recruitment options to fill labour gaps, considering skilled mechanics from countries with excess talent.
 - Streamline visa and immigration processes for foreign mechanics.
- 12. **Industry Automation:**
 - Investigate automation technologies, like robotic-assisted repairs, to augment the workforce and improve efficiency.
 - Train mechanics to work alongside automation systems effectively.
- 13. **Government-Industry Partnerships:**
 - Form partnerships with government agencies to create programs that provide financial incentives for businesses hiring and training new mechanics.
 - Collaborate with regulatory bodies to streamline certification processes.

14. Continuous Education:

- Develop programs for ongoing education and upskilling for mechanics to stay current with rapidly evolving automotive technologies.
- Encourage mechanics to pursue advanced certifications and specializations.

The possible reason for a shortage of skilled automotive repairers within Swansea. – 5 Whys Breakdown.



It's important to note that a solution may be necessary to fully address the shortage of skilled car mechanics in Swansea, but I will research further to come with a solid, set in stone, reason for the lack of skilled automotive repairers.

Using a decision-making technique, evaluate a range of solutions to identify the most appropriate option.

An effective decision-making technique is to evaluate a range of solutions is using the "Grid Analysis" In this technique, I will systematically assess each solution against specific criteria and assign scores to determine the most appropriate option to take going forward.

Decision to evaluate:	Severe Shortage of Skilled Car Mechanics in the Automotive Repair Industry							Score:	Multiplied Score
Factors	Scalability	Cost	Time to Implement	Long-term Viability	Quality of work	Ease of Implementation	Cultural Fit		
Weights	4	5	5	4	5	4	5		
Training New Mechanics	3	2	5	5	5	4	5	29	133
Hiring Foreign Skilled Mechanics	1	2	5	1	1	3	3	16	75
Partnership with Colleges	3	5	3	3	5	4	5	28	130
Offering Apprenticeship Program	5	5	2	3	1	4	5	25	113
Outsource Repairs	5	1	5	5	2	2	5	25	113

Legend - Weights:

- 1 = Very Poor
- 2 = Below Average
- 3 = Average
- 4 = Above Average
- 5 = Excellent

Legend - Factors:

- 1 – Not at all important
- 2 – Very little importance
- 3 – Normal Importance
- 4 – Slightly important
- 5 – Very important

Criteria Definitions:

Cost: The financial investment needed to execute the option.

Time to Implement: How quickly the option can be executed to ease the shortage.

Long-term Viability: How sustainable the solution is in the long run.

Quality of Work: The expected quality of the work output from implementing the solution.

Ease of Implementation: How easy it is to get the option off the ground and running.

Cultural Fit: How well the option aligns with company culture and values.

Scalability: How well the option can be scaled up or down based on future needs.

Key Insights:

Training New Mechanics and **Partnership with colleges** tie for the highest total scores, suggesting they might be the best-rounded solutions.

Outsourcing could be the least costly but might not be as sustainable in the long term, due to not having quality control over the repairs.

Hiring Foreign Skilled Mechanics could offer high-quality work, but there are concerns about the ease of implementation, also the time taken on going through C.V's and checking the compatibility with the current workforce.

Cost Benefit Analysis

	Year	1	2	3	4	5	Cost (£) total
Training & Development:							
Designing on-the-job training programs		£15,000					£15,000
Hosting training workshops annually		£10,000	£10,000	£10,000	£10,000	£10,000	£50,000
Launching apprentice schemes annually (stipends, training materials)		£20,000	£20,000	£20,000	£20,000	£20,000	£100,000
Public Awareness & Outreach							
Marketing campaigns annually		£8,000	£8,000	£8,000	£8,000	£8,000	40,000
Organising open days at workshops annually		£5,000	£5,000	£5,000	£5,000	£5,000	£25,000
Recruitment incentives annually (sign-up bonuses, referral bonuses)		£10,000	£10,000	£10,000	£10,000	£10,000	£50,000
Partnerships:							
Engagement activities with local colleges		£4,000					£4,000
Total cost							£269,000

Benefits	Year	1	2	3	4	5	TOTAL
Direct Financial Benefits							
Increase in revenue due to more mechanics and faster service turnover		£150,000	£150,000	£150,000	£150,000	£150,000	£750,000
Reduction in costs from less downtime and more efficient operations		£20,000	£20,000	£20,000	£20,000	£20,000	£100,000
Indirect Benefit							
Enhanced brand reputation leading to increased sales Estimated at £15,000.		£15,000	£15,000	£15,000	£15,000	£15,000	£75,000
Higher customer satisfaction leading to a 15% increase in repeat customers, estimated at an extra £20,000 annually.		£20,000	£20,000	£20,000	£20,000	£20,000	£100,000
Reduced staff turnover saving on recruitment and training costs Estimated savings of £10,000 annually.		£10,000	£10,000	£10,000	£10,000	£10,000	£50,000
Strengthened partnerships leading to collaborative efforts and shared resources: Estimated at £5,000 savings annually.		£25,000	£25,000	£25,000	£25,000	£25,000	£125,000
TOTAL SAVINGS							£1,200,000

Using the figures from the Cost Benefit Analysis:

Total Benefits: £1,200,000 Total Costs: £269,000

$BCR = \frac{£1,200,000}{£269,000} = 4.46$ BCR

This means that for every £1 spent on addressing the skilled car mechanic shortage in Swansea, there is an expected return of £4.46 in benefits.

A $BCR > 1$ indicates that the project is expected to deliver a positive net return on investment. In this case, a BCR of 4.4 suggests a good return on investment, assuming all the benefits and costs are accurately estimated.

Gantt Chart: Addressing Skilled Car Mechanic Shortage in Swansea

Task Description	Start Date	End Date	Duration	Responsible
Training & Development				
Design on-the-job training programs	16/09/2023	30/09/2023	15 days	Training Team
Host training workshops	01/10/2023	10/10/2023	10 days	Training Team
Launch apprentice schemes	11/10/2023	25/10/2023	15 days	HR Team
Public Awareness & Outreach				
Design marketing campaigns for mechanic roles	26/10/2023	09/11/2023	15 days	Marketing Team
Organise open days at workshops	10/11/2023	20/11/2023	10 days	Workshop Owners
Roll out recruitment incentives	21/11/2023	30/11/2023	10 days	HR Team

Implementation Chart: Addressing Skilled Car Mechanic Shortage in Swansea

Task Description	Start Date	End Date	Duration	Responsible
Training & Development				
Design on-the-job training programs	09/09/2023	15/09/2023	7 days	Training Team
Host training workshops	18/09/2023	25/09/2023	8 days	Training Team
Launch apprentice schemes	20/09/2023	27/09/2023	8 days	HR Team
Public Awareness & Outreach				
Design marketing campaigns for mechanic roles	28/09/2023	05/10/2023	8 days	Marketing Team
Organise open days at workshops	06/10/2023	13/10/2023	8 days	Workshop Owners
Roll out recruitment incentives	10/10/2023	17/10/2023	8 days	HR Team

Communicate the plan to relevant stakeholders.

Guidelines for Communicating the Plan:

Identify the Relevant Stakeholders:

I would start by listing who needs to be in the loop. For this issue, stakeholders might include:

- Owners and managers of automotive repair shops
- Investors or shareholders (if applicable)
- Existing mechanics and other staff members
- Local technical colleges or training institutions
- Automotive industry associations
- Suppliers or partners (like parts manufacturers or dealerships)

Specify in a crystal-clear manner the objectives of the communication:

Making sure that I am crystal clear about the purpose of my communication as well as the goals that I aim to accomplish through it, such as increased awareness, feedback, or collaboration.

It's possible that different stakeholders will need distinct channels:

- Presentations to investors or big groups
- Email updates or newsletters for wider audiences
- Meetings for members of the internal team
- Opinion polls or public statements to raise awareness among the broader public or among customers.
- Surveys to collect feedback on products or services.

Crafting the Message

- In the introduction, describe the existing situation and elaborate on why it is so important to address the shortfall.
- Specifics regarding the deficiency: include numbers or figures that illustrate the magnitude of the issue.

Impact: Describing how the lack of supply influences business as well as customer service and other operations.

Proposed methods: Using the methods that have I have already been addressed (such as forming relationships with colleges or employing new individuals. Explain the benefits of each strategy as well as the potential difficulties that may arise from implementing it.

Action Plan and Timeline: I will specify the steps that are expected to be taken in the following months or years and by what date they are expected to be completed.

Feedback Mechanism: Describing the process via which various stakeholders can communicate their feedback or concerns.

Engage and Listen:

- **Q&A Sessions:** Allow time for questions, clarifications, and suggestions.
- **Feedback Collection:** Using methods like surveys, feedback forms, or open-door policies to gather insights from stakeholders.

Address Concerns:

- Stakeholders might have concerns or reservations. Address these head-on, ensuring clarity and building confidence in the plan.

Continuous Updates:

- Stakeholders will want to know how things are progressing. I would regularly update them on milestones reached, challenges faced, and changes made to the plan.

Maintain Transparency:

- If there are potential pitfalls or uncertainties in your plan, being upfront about them. Stakeholders appreciate honesty, and it can prevent issues down the line.

Document Everything:

- Whether it's meeting minutes, presentations, or email communications, keep records. This not only ensures clarity but can also serve as a reference point in the future.

Follow Up:

- After the initial communication, reach out to stakeholders to get more in-depth feedback, answer further questions, or provide additional information.

In Summary

When communicating with stakeholders about a sensitive topic, such as a lack of trained labour, it is essential to be explicit, transparent, and open to feedback. We will improve the likelihood that our strategy will be successful and develop a spirit of collaboration if we keep stakeholders informed and involve them in the process.

Assess appropriate monitoring and review techniques to ensure successful implementation of solution.

To ensure the successful implementation of a solution addressing the shortage of skilled car mechanics in the automotive repair business, it's essential to use a combination of monitoring and review techniques. Here's an assessment of some of these techniques:

Key Performance Indicators (KPIs)

KPIs are quantifiable metrics that show the effectiveness of implemented actions.

Application for Mechanic Shortage:

- **Number of newly trained mechanics:** Track how many people have been trained and are operational.
- **Time taken for skill proficiency:** Monitor the average time it takes for a recruit to become proficient.
- **Retention rate:** Assess how many newly trained or hired mechanics remain in the business over a set period.

Regular Surveys and Feedback Mechanisms

Using surveys to gather feedback from employees and customers.

Application for Mechanic Shortage:

- **Employee feedback:** Understand the effectiveness of training programs, workplace satisfaction, and possible improvements.
- **Customer feedback:** Gauge customer satisfaction. A successful implementation would ideally lead to increased customer satisfaction due to decreased wait times and improved service quality.

Periodic Reviews and Audits

A regular review of operations to check for adherence to the planned solution.

Application for Mechanic Shortage:

- Audit the hiring and training processes to ensure they align with the proposed solution.
- Assess the skill level of new mechanics periodically to ensure quality control.

Benchmarking

Compare the business practices and metrics with industry standards or competitors.

Application for Mechanic Shortage:

- Understand industry averages for mechanic proficiency, retention rates, and training periods.
- Compare our performance against these benchmarks to measure success and identify areas for improvement.

Dashboard and Real-time Analytics

Using technology to monitor real-time data regarding operations.

Application for Mechanic Shortage:

- Monitor how many mechanics are currently working, the number in training, and the work backlog.
- Using dashboards to get a quick overview of the status and if the business is on track with the planned solution.

Milestone Tracking

Setting specific milestones within the solution plan and monitor the progress towards achieving them.

Application for Mechanic Shortage:

- If one of the solutions was to partner with technical schools, a milestone could be the first batch of students completing their training.
- Monitoring the achievement of these milestones can provide insights into the pace and effectiveness of implementation.

Feedback Loops with Stakeholders

Regularly engage with all stakeholders (management, mechanics, trainers, partners) to get feedback and refine the solution.

Application for Mechanic Shortage:

- Hold monthly or quarterly meetings to discuss what's working and what needs adjustment.
- Engage with mechanics to understand their challenges and training needs.

Conclusion

A deep involvement to monitoring and reviewing moving forward, is crucial for ensuring the successful implementation of the solution. Regularly assessing and refining based on data and feedback ensures the strategy remains effective and adaptive to changing conditions.

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Appendix 1

Data on Shortage of Skilled Car Mechanics in the UK Automotive Repair Business

Breakdown by UK Regions

Region	2019	2020	2021
South East	150	160	170
London	180	185	190
North West	140	145	150
Scotland	130	132	135
Wales	110	115	120

Note: Numbers represent the shortage of skilled mechanics in each region.

B. Average Wages of Car Mechanics in the UK (Compared to Other Professions)

Profession	Average Annual Wage (£)
Skilled Car Mechanic	28,500
Electrician	30,000
HVAC Technician	29,000
Software Developer	45,000

Top 3 Recommendations from Industry Experts

- **Invest in Training Programs:** Collaborate with technical institutes and colleges to ensure that the curriculum is updated and aligns with industry needs.
- **Incentivise Career Growth:** Offer clear career pathways, competitive salaries, and benefits to attract and retain talent.
- **Public Awareness Campaigns:** Promote the profession to counteract any negative stigma and highlight the importance and value of skilled car mechanics with taking on more woman within the profession.