

# Project module 2: insights group

Business



Project Module 2: INSIGHTS GROUP Question The use of adhesives in the automotive industry is gradually substituting welds, rivets, screws, and bolts. However, its use is faced by various challenges which include; (1) the inability to withstand high temperatures. Thus, limiting its efficiency particularly in holding engines together. (2) Some of the adhesives may contain harmful substances and solvents hence their use requires specialized training. (3) Its inability to perform well in oily and dirty parts of the vehicle defeats its competence as compared to rivets and bolts. (4) The permanency nature of adhesives tends to make repair and adjustments in vehicles very difficult as they are strong and difficult to undo. (5) Its use lacks the required skills and expertise since most engineers are not trained to use adhesives hence they prefer bolts to adhesives. And (6) difficulties in measuring the tightness and firmness of the use of adhesives in binding materials unlike in the use of bolts and nuts (Hagerty & Ramsey 3). Nevertheless, automakers are looking for ways to overcome the above challenges by training engineer with special specialties on using adhesives and deriving ways to improve the ability of adhesives to withstand high pressures of more than 6500 pounds of force per square inch and endure high temperatures. Additionally, they incline to use advanced technology and robots while binding different parts so as to improve efficiency.

#### Question 2

Ford influenced the sharing of technology with suppliers by prompting Alcoa Inc. to share its pretreatment technology in exchange for royalties. As a result, this made aluminum more compatible with adhesives thereby increasing on its use in terms of quantity and improvement in performance. Additionally, this fostered the aluminum market by increasing its shares

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since aluminum does not easily weld to steel but can be easily glued to it. For this reason and in accordance with John Hill who is a Ford researcher for adhesives, the use of adhesives in the automotive industry increased significantly whereby structural adhesives global market will increase from \$1.5 billion to \$2 billion. To be more precise the adhesive market is growing at a rate of 4% and 5% per year which is an improvement of 2% and 3% a few years ago.

### Question 3

The use of adhesives in the automotive industry has a great positive impact on productivity which can be greatly attributed to its potential cost advantages. This is because; car makers tend to cut manufacturing costs by using thinner steel that are firmly stiffened together by adhesives. In addition, the use of adhesives in the automotive industry fosters production of light vehicles which are indeed economical in terms of fuel consumption (Hagerty & Ramsey 1). More importantly, the use of adhesives in vehicles reduces the cost of production as the energy used in binding materials using adhesives is less compared to the energy used in other binding techniques (De et al, 1110). However, its use also tends to have a negative impact on productivity as it incurs additional costs in repair and maintenance as adhesive joints are characteristically weak and their strength is weakened by high temperatures. Additionally, the use of adhesive is quite risky to the common average worker since they contain some harmful solvents.

### Question 4

This article on the use of adhesives in manufacturing of vehicles made me feel very enthralled when I first came across it. The mere thought of driving a vehicle bound together by adhesives at a speed of 70mph made me feel not

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only uncomfortable but insecure as well. However, after reading about the use of adhesives in manufacturing, my confidence in using vehicles bound together by adhesives have been partially restored. This is because, the use of adhesives have clearly proven to being advantageous over bolts and nuts in a variety of ways in terms of improved designs in vehicles, reducing pollution and cutting down production and maintenance costs in a major ways. However, as far as safety measures are concerned, the inability to measure the tightness after using adhesives and their incapability to withstand high temperatures great forces on impact raises a lot of concerns.

#### Works Cited

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