Innovation and Technology Management Assignment-1

Project-1 Light vehicle Greenhouse Gas emission

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1) The key areas that should be considered prior to introducing a new technology or innovation into an engineering project are as follows:

- Safety – This is the most important area for the engineering project one unsafe situation at this area a human could lose a life or could face severe injury which will affect its way of living in future. So, it is always ensured is the project is safe and beneficial for community? If yes, review of the equipment which will be used to produce technology must be done. If the project passes all safety standards, then only further steps are discussed.
- Cost - It is one of the most important area because before introducing a new technology or innovation into an engineering project, we should know how much this innovation or technology will cost and is it feasible for organisation to spend that much amount? If yes, how much should be the price for customer should be is it affordable for public and available for everyone? If yes, how much equipment, material, staff needed to complete project. At last is company making enough profit out of it so that they can invest that money for more innovation or upgradation of technology and even for maintenance of the project.
- Timeline – In this area collaborative meeting of engineers and company takes place and comes up with the time which is required to complete the project. If the timeline of completing project exceeds more than the time given or proposed, then the cost of project will exceed which will be loss for organisation and sometimes companies go bankrupt.
- Laws or Government Policies – It is important to get an approval from government official or to go through the government policies or laws to ensure that the engineering project about to be done follows rules. If the rule and regulation will not be followed it will cause problem for the firm and could be charged high penalties for the offense.
- Environment – Pollution is biggest problem for mankind, so government nowadays focusing more on how to reduce carbon footprints that is why government have said companies to make engineering project more sustainable and environment friendly.

2) According to me the innovation approach differs by sector. The reason to choose radical approach compare to an incremental approach to innovation is that radical approach is the new way of thinking which does not depends on previously or existing model while incremental approach which can also be called as upgradation innovation and is always depended on previous models. As the idea in radical approach is all yours and new you are the sole owner of the product an company while in incremental you always have to go through certain board meetings to implement things which takes time by that other by radical approach launches new and more superior products, If the timing in radical is right it will be a perfect fit and profitable. For example iPhone launch(June, 2007) is one of the example for a radical approach at that time all companies were taking incremental approach making keypad phone iPhone took radical approach and made touch screen phones from then to now 'Apple' is a leader in the cell phone industry.

3) A value proposition is a way to convince people the idea proposed by you is a good idea and a good way to do is by giving advantages over your competitors [1]. The new technology available in the automobile industry is hybrid electric vehicle (HEV) in which a standard vehicle (Internal combustion engine) which runs on fossil fuel is attached with electric motor. The reason to come up hybrid vehicle was that the standard vehicle cause to much pollution in the environment and electric vehicle is expensive and needs charging station or

source to charge. A company in India converts your exiting vehicle into hybrid vehicle under AUD 1200(INR 60000). The company (ALTIGreen Drive Electric) stated that" Our proprietary, low cost, retrofit Hybrid Intelligent Exchange drive systems convert fossil fuel-based vehicle that are in use into hybrids. With advance regenerative braking, the system is grid independent, requiring no external charging." [2]. By this mileage will improve by 25% and emission will be reduced, and vehicle will need less maintenance which saves money for the customer which huge factor. The system which majorly saves energy and helping to reduce emission is regenerative braking system it is a system when the brake pedal is pressed the electric motor revolve in the opposite direction and energy is generated which further stored in battery and when you press the acceleration pedal instead of using fuel to drive the vehicle battery will be used to accelerate it. It is also said (M. Lv, Z. Chen, Y. Yang and J. Bi,2017) "Regenerative braking control strategy can achieve recovery energy up to 28.29%." [3], by which the consumption of fossil fuel will be reduced and load on engine also reduced and therefore, greenhouse gas emission will be reduced.

References:

[1] https://www.kunocreative.com/blog/good-value-proposition-examples

[2] http://hypixi.in/#!/product

[3] M. Lv, Z. Chen, Y. Yang and J. Bi, "Regenerative braking control strategy for a hybrid electric vehicle with rear axle electric drive," *2017 Chinese Automation Congress (CAC)*, Jinan, 2017, pp. 521-525, doi: 10.1109/CAC.2017.8242823