



# Application of Quality Function Deployment (QFD) in Die Redesign to Lowering Rework of Stamping Parts

A. M. Muslimin<sup>a,\*</sup>, D. Luqyana<sup>a</sup>, A. M. Muhamad<sup>a</sup>, C. Nur Rosyidi<sup>b</sup>

<sup>a</sup> Politeknik Negeri Jakarta, Mechanical Engineering Department, Jakarta, Indonesia;

<sup>b</sup> Universitas Sebelas Maret, Industrial Engineering Department, Surakarta, Indonesia

## References

- [1] K. Mukti and M. Muslimin, "Rancang Bangun Mesin Press Caulking dan Stacking Shaft Yoke dan Sleeve Yoke," *J. Mek. Terap.*, vol. 1, no. 2, pp. 123–132, 2020, doi: 10.32722/jmtr.v1i2.3359.
- [2] M. Muslimin, A. M. Muhamad, F. Triawan, and A. B. D. Nandyanto, "Surface characteristics of low carbon steel JISG3101SS400 after sandblasting process by steel grit G25," *J. Eng. Res.*, vol. 10, no. 2 B, pp. 193–204, 2022, doi: 10.36909/jer.10091.
- [3] A. R. A. Rahim and M. S. N. Baksh, "Application of quality function deployment (QFD) method for pultrusion machine design planning," *Ind. Manag. Data Syst.*, vol. 103, no. 5–6, pp. 373–387, 2003, doi: 10.1108/02635570310479954.
- [4] L. K. Chan and M. L. Wu, "Quality function deployment: A comprehensive review of its concepts and methods," *Qual. Eng.*, vol. 15, no. 1, pp. 23–35, 2002, doi: 10.1081/QEN-120006708.
- [5] L. K. Chan and M. L. Wu, "Quality function deployment: A literature review," *Europ. J. Op. Res.*, vol. 143, no. 3, pp. 463–497, 2002, doi: 10.1016/S0377-2217(02)00178-9.
- [6] D. Bond, F. A. Suzuki, and R. K. Scalice, "Sheet metal joining process selector," *J. Brazilian Soc. Mech. Sci. Eng.*, vol. 42, no. 5, pp. 1–15, 2020, doi: 10.1007/s40430-020-02310-9.
- [7] A. Kasaei, A. Abedian, and A. S. Milani, "An application of quality function deployment method in engineering materials selection," *Mater. Des.*, vol. 55, pp. 912–920, 2014, doi: 10.1016/j.matdes.2013.10.061.
- [8] S. Rianmora and S. Werawatganon, "Applying quality function deployment in open innovation engineering," *J. Open Innov. Technol. Mark. Complex.*, vol. 7, no. 1, pp. 1–20, 2021, doi: 10.3390/joitmc7010026.
- [9] S. Siswiyanti, R. Rusnoto, S. Luthifianto, and N. Nurjanah, "The Application of Quality Function Deployment (QFD) Towards The Design of Batik Coloring Machines to Increase The Value of Fading and Stains on Fabrics," *J. Ilm. Tek. Ind.*, vol. 18, no. 1, pp. 95–102, 2019, doi: 10.23917/jiti.v18i1.7165.
- [10] N. O. Erdil and O. M. Arani, "Quality function deployment: more than a design tool," *Int. J. Qual. Serv. Sci.*, vol. 11, no. 2, pp. 142–166, 2019, doi: 10.1108/IJQSS-02-2018-0008.
- [11] N. V. Syreyshechikova, D. Y. Pimenov, E. N. Yaroslavova, M. K. Gupta, S. Sharma, and K. Giasin, "Product quality planning in laser metal processing based on open innovation using quality function deployment," *J. Open Innov. Technol. Mark. Complex.*, vol. 7, no. 4, 2021, doi: 10.3390/joitmc7040240.
- [12] M. V Patro, Chandra Sekhar, Prasad, "a Study on Implementation of Quality Function Deployment Technique in Product Design Stage," *Int. J. Manag. Res.*, vol. 3, no. 6, pp. 2966–2974, 2013.
- [13] A. Singh and S. Kumar, "Picture fuzzy set and quality function deployment approach based novel framework for multi-criteria group decision making method," *Eng. Appl. Artif. Intell.*, vol. 104, no. January, p. 104395, 2021, doi: 10.1016/j.engappai.2021.104395.
- [14] Y. Shen, J. Zhou, A. A. Pantelous, Y. Liu, and Z. Zhang, "A voice of the customer real-time strategy: An integrated quality function deployment approach," *Comput. Ind. Eng.*, vol. 169, no. November 2021, p. 108233, 2022, doi: 10.1016/j.cie.2022.108233.
- [15] Q. Yang, Z. Chen, C. Y. P. Chan, W. Pedrycz, L. Martínez, and M. J. Skibniewski, "Large-scale group decision-making for prioritizing engineering characteristics in quality function deployment under comparative linguistic environment," *Appl. Soft Comput.*, vol. 127, p. 109359, 2022, doi: 10.1016/j.asoc.2022.109359.
- [16] V. Lapinskienė and V. Motuzienė, "Integrated building design technology based on quality function deployment and axiomatic design methods: A case study," *Sustain. Cities Soc.*, vol. 65, 2021, doi: 10.1016/j.scs.2020.102631.

- [17] S. Kayapinar Kaya and N. Erginel, "Futuristic airport: A sustainable airport design by integrating hesitant fuzzy SWARA and hesitant fuzzy sustainable quality function deployment," *J. Clean. Prod.*, vol. 275, p. 123880, 2020, doi: 10.1016/j.jclepro.2020.123880.
- [18] A. H. K. Babar and Y. Ali, "Enhancement of electric vehicles' market competitiveness using fuzzy quality function deployment," *Technol. Forecast. Soc. Change*, vol. 167, no. March, p. 120738, 2021, doi: 10.1016/j.techfore.2021.120738.
- [19] E. S. Jaiswal, "A Case Study on Quality Function Deployment (QFD)," *IOSRJ. Mech. Civ. Eng.*, vol. 3, no. 6, pp. 27–35, 2012, doi: 10.9790/1684-0362735.
- [20] V. Boljanovic, *Sheet metal Forming Process and Die Design*, New York, NY, USA: Industrial Press, 2004.
- [21] I. Suchy, *Handbook of Die Design*, second edition, New York, NY, USA: McGraw-Hill, 2006.