

Suppliers in quadrant 1 are the worst suppliers. For suppliers in this segment, the company is suggested to replace these suppliers with better supplier alternatives (Fransiskus & Sudjatmika, 2015). For suppliers in quadrant 2, the company is advised to increase the capabilities of suppliers by offering assistance to improve quality with education and knowledge transfer, as well as setting a target for suppliers (Rezaei, Wang, & Tavasszy, 2015). The strategy that companies can do to increase supplier willingness in quadrant 3 is to make a long-term commitment and carry out communication strategies to increase supplier willingness. Suppliers in quadrant 4 are the best suppliers, therefore the company must strive to maintain relationships with these suppliers by improving communication and site evaluation.

5. Conclusion

This study on supplier evaluation and segmentation obtained 8 criteria (with 24 sub-criteria) for capabilities dimension and 4 criteria (with 13 sub-criteria) for willingness dimension in evaluating suppliers. Based on calculations with BWM, supplier evaluation sub-criteria with the highest weight on the capabilities dimension is Quality, while the criteria that have the highest weight for willingness dimension is Commitment to improve continuously in products and processes. The results of supplier segmentation for one of the cheese company in Indonesia shows that 3 suppliers are in quadrant 1, 3 suppliers are in quadrant 2, 3 suppliers are in quadrant 3, and 13 suppliers are in quadrant 4. To manage suppliers based on the result of segmentation, the company is advised to replace suppliers in quadrant 1, provide quality improvement education and target setting for suppliers in quadrant 2, make long-term commitments and improve communications for suppliers in quadrant 3, and maintain relationships for suppliers in quadrant 4.

This approach of BWM-TOPSIS for supplier evaluation and segmentation in cheese company is practical and can be implemented for company in other industry to manage different suppliers effectively and systematically by evaluate and segment its suppliers. The limitation of this study is the number of supplier quadrant, which can be increased by including another dimension for segmenting the suppliers. Another limitation relates to adapting the center point of scales (0.5) as the transition point of the low and high classification. In future research, the transition point can be adjusted based on the requirement of the buying company. Another recommendation for future research is by adapting other MCDM methods and comparing the result with BWM-TOPSIS segmentation result, to eventually identify the suitability of each method for different situation. Lastly, the number of experts involved can be increased to better validate the study.

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