



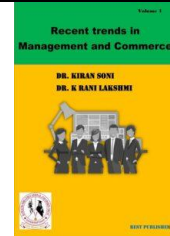
## Recent trends in Management and Commerce

Vol: 2(4), 2021

REST Publisher

ISBN: 978-81-936097-6-7

Website: <http://restpublisher.com/book-series/rmc/>



# Performance Analysis of Micro and Small Entrepreneurs using WPM Method

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## Abstract

Autonomous maintenance is a method in manufacturing, which Dedicated to machine operators Maintenance technicians believing, basic maintenance Assigns responsibility for tasks. Objective of this thesis finding the best location Autonomous Maintenance System Weighted product method (WPM). This paper is the weighted product for solving the routing decision problem Model (WPM) is used. Every Dynamically assign weights to criteria This proposed scheme Considers the relevant valuation method for Credit histories, Behavior preference, Performance abilities, Identity features, Interpersonal relationships. Weight (W<sub>j</sub>) Autonomous Maintenance System alternatives. Evaluation parameters on entrepreneur 1, entrepreneur 2, entrepreneur 3, entrepreneur 4, entrepreneur 5 from the result it is seen that entrepreneur 2 and is got the first rank whereas is the entrepreneur 3 got is having the lowest rank. The value of the dataset for Facade Micro and Small Entrepreneurs in Weighted product method shows that it results in entrepreneur 2 and top ranking.

**Keywords:** Micro, Small or Medium Enterprises (MSMEs), entrepreneur, Weighted product method

## Introduction

Based on their nature, size, investment threshold and turnover, businesses are classified as Micro, Small or Medium Enterprises (MSMEs). These companies are covered under the MSME Development Act, 2006 and are of two categories- manufacturing or services. Business owners can register and obtain MSME certificates to avail benefits from the government for the growth and support of such enterprises. The government extends support measures in the form of easy credit facilities or policy measures to facilitate their growth. There are a variety of businesses and organizations ranging from small neighborhood outlets or stores to large grocery chains or franchise stores. These companies hire a number of people depending on their manpower requirements. Minimum capital is required to start such business ventures. From the copy shop or chat stall in the neighborhood market to the small restaurant and home decor outlet in the town square, we see numerous micro and small business establishments on a daily basis. The maximum typing pace ever recorded become 216 words in Line with minute (wpm), set by using Stella Bujones in 1946 the use of an IBM electric powered typewriter. Currently, the quickest English typist is Barbara Blackburn, who carried out a pinnacle typing speed of 212 wpm at some point of a test in 2005, the use of a Dvořák simplified keyboard. If you kind at a mean speed, you may hit 41 words in step with minute (WPM). Although forty one wpm is a mean typing pace, it's far sufficient to qualify for maximum jobs that require writing or typing on a keyboard, which includes a secretary, accountant, or typist.

## Micro and Small Entrepreneurs

[1] In the twenty-first century, an awful lot interest is paid to entrepreneurship with the aid of setting up firms. Performed a critical position in the improvement of a state and the well-being of communities through the introduction of jobs, wealth and innovation. In Ethiopia, the significance of institutions Ownership of women marketers is addressed in diverse documents including Industry [2] The purpose of this examine is to study the position and contribution of MFIs Growth and Development Enterprises its Responsiveness wishes in their customers. It's in addition targets are: To discover how MFIs can mitigate a number of the deep-rooted reasons Poverty, talk the functioning of such applications and grow their client base. To find out the preferences of women entrepreneurs and perceptions regarding MFIs Support programs will be provided. To provide various economic entities United States. primary refine routine particularly higher knowledge they enjoy of numerous women round America, and their insights into the goods and offerings to be had, this newsletter is predicated on Provide precious statistics. [4] Additionally, it supports micro and small scale organizations the guidelines provided in the Industrial Development Strategy of Ethiopia provide a mandate for TVET faculties to provide commercial growth and development approach Services for Professional done their interest Businesses (nearly fifty six.41 percent) from rental houses; the relaxation the percentage of [6] The AIM scheme requires the debtors to have monetary performance. Micro and small organizations, in particular sales, process advent and make certain the effectiveness of the AIM application on poverty Empowering women thru mitigation and their micro and sustainable development Small corporations.[8] In Request Banking offerings are nevertheless greater and MGAs a completely appropriate device to access them. The lifestyles of a incredibly big no Banks within Will honestly barter Able to get very favorable credit phrases. With past revel in

conference spell Details of relationships between each of them is an MGA. [9] The questionnaire, designed in close collaboration with a nearby change affiliation, became pre-tested with the aid of six businesses. Their feedback was taken under consideration to arrive at the final version of the questionnaire. [12] Programs Micro-entrepreneurs have to adopt a comprehensive approach focusing on commercial enterprise training, income and enterprise. Marketing, get entry to finance and get right of entry to markets as a part of a package deal of applications to sell entrepreneurship. Governments and associated agencies have to co-develop and finance with the personal zone monetary merchandise, with a focus on micro-businesses, are focused at micro-entrepreneurs in states that lack venture capital. Examples consist of cash go with the flow loans, mortgage ensures and loans based totally on patron contracts. [19] Focusing at the Caribbean island of Trinidad, I study the perspectives of microenterprise professionals on ladies's micro-entrepreneurship. The wishes and stories of these women. African-Caribbean Women—the number one additives of Trinidad's micro-employer programs are long a history of self-generated earnings for economic survival. And extra of those the rhetoric seems to omit women's experiences and worries Microenterprise Professionals. [26] To be particular, there are many neighborhood bodies in lots of clusters States Companies and enterprise sector, nearby universities and people furnished by using Training Centers of HRD a few guide for SMEs. However, in implementing numerous incentive schemes, there's no coordination effort between diverse groups; in some cases these corporations carried out similar tasks/programmers. [28] Also, this statistics may be taken into consideration inside the future in designing aid for improvement groups Schemes and tasks to assist increase it is able to From a theoretical attitude, adopting the concept of innovation represents a similarly contribution, which sheds light and helps expertise as well as in future studies. [29] This research examine contributes to the literature on micro and small groups and innovation and craft brewing entrepreneurs, 187 craft brewers, managers and Directors/personnel include the precept of innovation. Craft brewing is the industry of choice for diverse reasons which include its recent large increase? In truth, the modern information records growing range within the EU Countries together with microbreweries. [30] Their impact on commercial enterprise the climate may be extra expansive as network contributors and new generations evolve Strong interplay with Micro and small casual and formal quarter owners Organizations that include a massive a part of the entrepreneurial panorama. Network participants are ideal for growing their enterprise activities Members in different international locations, however they're challenged by way of organizational constraints Francophone and Anglophone classes, government rules and prices, and good enough shipping and communiqué infrastructure. They resist Travel to nurture via the use of generation (cell phones and the Internet) and in individual contacts.

### **WPM method**

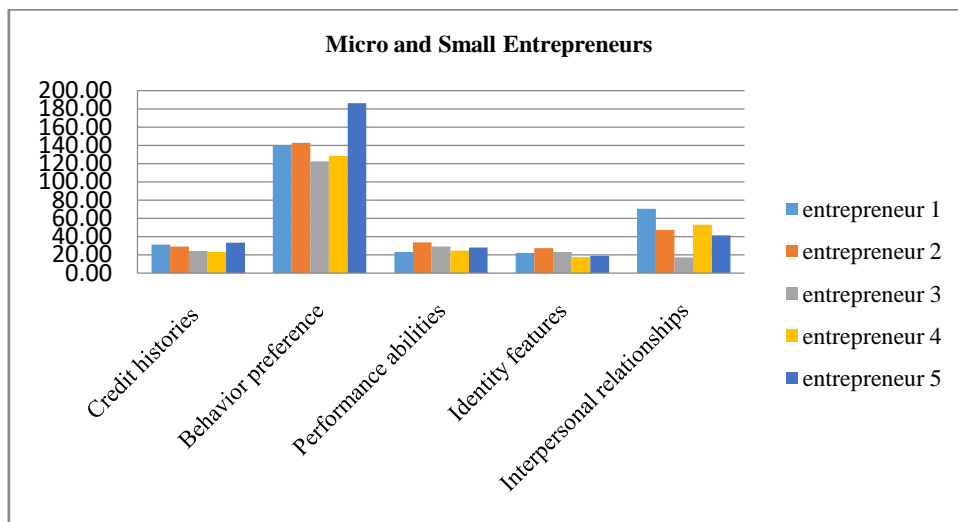
To find the weighted average, multiply each range via its weight after which upload the consequences. If the weights do not upload up to 1, multiply the sum of all variables through their weights and divide by means of the sum of the weights. A weighted average extended by using manner of a predetermined weight in advance than the very last calculation is made. To calculate the not unusual atomic weight, every isotopic atomic weight is expanded with the aid of its percent abundance (expressed as a decimal). Then, upload the effects together and upload to the appropriate wide variety of enormous figures. [1] The relaxation of the item is prepared as follows. Presents a simple version a brand new scoring characteristic is proposed through the weighted product method. We study a bidder's equilibrium bidding strategies based totally on predicted profit. In Cope-Douglas A software feature is used to make a change-off between possibility of success and earnings Determining the once more. The buyer's profit is in comparison. There are most excellent bids Identified. Demonstrating the robustness of our models. [2] A version picks the exceptional alternative because: WPM can be used in multidimensional choice making system due to the fact it's miles dimensionless. Here are 3 distinctive standards considered. Each criterion has distinct dimensions. Hence, it is appropriate to combine those with WPM values. It measures benefit and accommodates price Concurrent standards in selection making. [3] In this bankruptcy we take a look at easy multi-standards decision-making strategies. In a weighted amount Method and possibility's rating related to every characteristic. In weighted product technique, in place of calculating sub-rankings with the aid of multiplication Performance Scores System importance characteristic, overall performance scores could be raised Characteristic importance is weight strength. [4] Where E is the variety of drift diagram. In using this test Method, set of rules is evolved based totally on glide graph. [5] Upload problems in the personnel recruitment technique. Therefore, the reason for this examination is to use the weighted product sampling technique to help the personnel recruitment games to shape the company's standards. This approach match preferences.[6] Once the product is weighed FMADM solves the trouble. This time evaluates a couple of options for a fixed of attributes or each attribute is independent standards to every other. According to the weighted product technique. Using multiplication techniques to combine assessment attributes, every attribute should have a price Raised to strengthen with the associated trait weights. This procedure is much like system Normalization. [7] There are some famous methods developed by researchers to solve the multi-criteria decision-making problem, one of which is the Weighted Product Method (WPM) introduced by Bridgman in 1922. Tested for more than three criteria. One hundred criteria. Many researchers have reported the successful use of WPM to solve multiple criteria such as choosing shelter, choosing suitable food, choosing suitable learning site, duck diagnosis and other similar tasks. Based on these successful works, this study attempted to implement WPM to address housing choice for individuals facing decision-making difficulties. The method was calculated and implemented in a web-based system. [8] software layout technique used in these studies program improvement existence regularly referred to as the traditional existence cycle (conventional existence cycle), that is a proper and descriptive A hierarchical method developed. [9] Increasing water productivity may be a vital path to poverty discount, ESP. In developing international locations, the variety of water productiveness inside, precise situations underneath crop. [10] Decision making strategies have been utilized by many Researchers in numerous fields of engineering, era and technology. In 1981, Nicholas supplied the first Quantitative

method for underground mining system choice. Most researchers use Nichols techniques as a platform for studies paintings. Research works Selection of underground mining approach using several characteristics.

**TABLE 1.** Micro and Small Entrepreneurs Weighted product method Data Set

	DATA SET				
	Credit histories	Behavior preference	Performance abilities	Identity features	Interpersonal relationships
entrepreneur 1	31.08	139.53	23.05	22.05	70.52
entrepreneur 2	29.12	142.97	33.69	27.30	47.37
entrepreneur 3	24.08	122.58	29.18	23.10	17.21
entrepreneur 4	23.17	128.28	24.60	17.59	52.89
entrepreneur 5	33.33	186.41	27.96	18.89	41.25

This table 1 shows that the value of dataset for Micro and Small Entrepreneurs in Weighted product method Alternative: entrepreneur 1, entrepreneur 2, entrepreneur 3, entrepreneur 4, entrepreneur 5.



**FIGURE 1.** Micro and Small Entrepreneurs in Weighted product method Data Set

This figure 1 shows that the value of dataset for Micro and Small Entrepreneurs in Weighted product method Alternative: entrepreneur 1, entrepreneur 2, entrepreneur 3, entrepreneur 4, entrepreneur 5.

**TABLE 2.** Micro and Small Entrepreneurs in Weighted product Weight age

Weight				
0.25	0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25	0.25

This table 2 shows that the values of Micro and Small Entrepreneurs in Weighted product method for Weight age using Weighted product method Find the pair wise comparison value for 1,entrepreneur 2,entrepreneur 3,entrepreneur 4,entrepreneur 5.

**TABLE 3.** Micro and Small Entrepreneurs in Weighted product Weighted normalized decision matrix

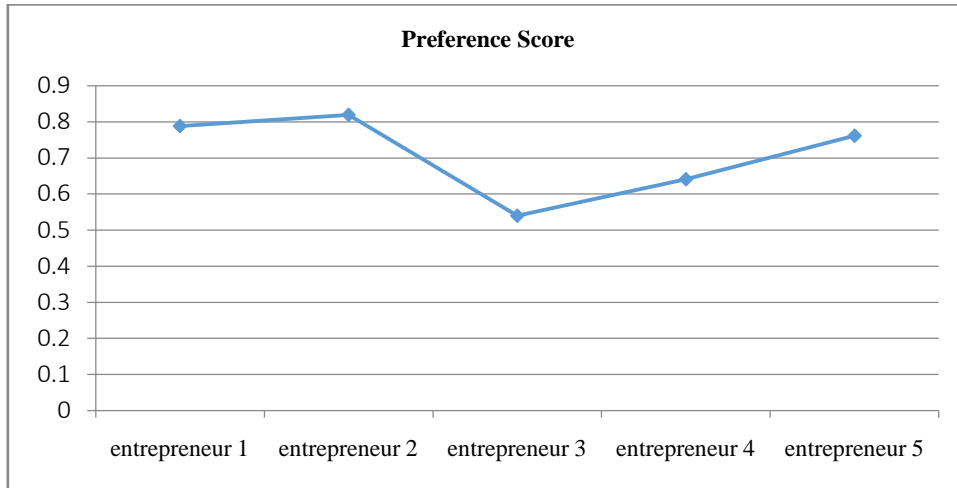
Weighted normalized decision matrix					
entrepreneur 1	0.9827	0.9301	0.9095	0.948	1
entrepreneur 2	0.9668	0.9358	1	1	0.905287
entrepreneur 3	0.9219	0.9005	0.9647	0.9591	0.702857
entrepreneur 4	0.9131	0.9108	0.9244	0.8959	0.930605
entrepreneur 5	1	1	0.9545	0.912	0.874536

This table 3 shows that the values of Micro and Small Entrepreneurs in Weighted product method for Weighted normalized decision matrix using Weighted product method Find the pair wise comparison value for 1,entrepreneur 2,entrepreneur 3,entrepreneur 4,entrepreneur 5.

**TABLE 4.** Micro and Small Entrepreneurs in Weighted product Preference Score

	Preference Score
entrepreneur 1	0.78807
entrepreneur 2	0.819067
entrepreneur 3	0.539906
entrepreneur 4	0.64098
entrepreneur 5	0.761297

This table 4 shows that from the result it is seen that entrepreneur 1=0.8190671<sup>st</sup> rank, entrepreneur 2=0.788072<sup>nd</sup> rank, entrepreneur 3= 0.7612973<sup>rd</sup> rank , entrepreneur 4= 0.640984<sup>th</sup> rank, entrepreneur 5 =0.539906 5<sup>th</sup> rank



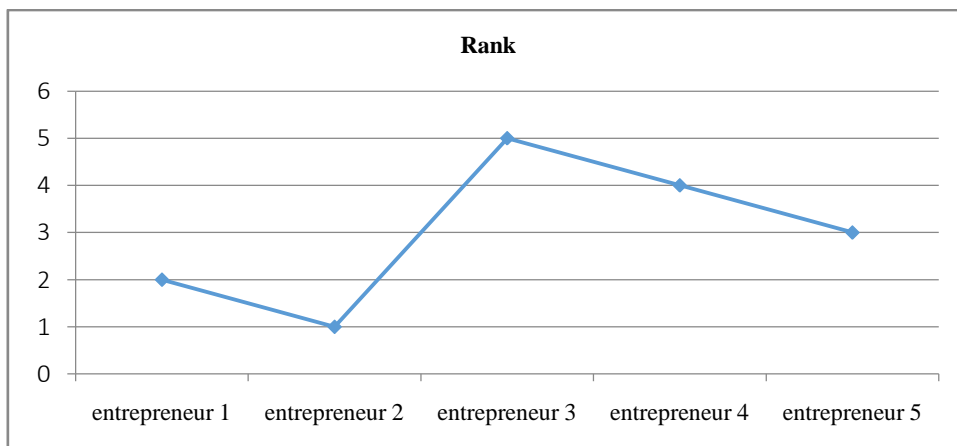
**FIGURE 2.** Micro and Small Entrepreneurs in Weighted product Preference Score

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**TABLE 5.** Micro and Small Entrepreneurs in Weighted product Rank

	Rank
entrepreneur 1	2
entrepreneur 2	1
entrepreneur 3	5
entrepreneur 4	4
entrepreneur 5	3

This figure 5 shows that from the result it is seen that entrepreneur 2 and is got the first rank whereas is the entrepreneur 3 got is having the lowest rank.



**FIGURE 3.** Micro and Small Entrepreneurs in Weighted product Rank

### Conclusion

Additionally, it supports micro and small scale companies. The pointers supplied within the Industrial Development Strategy of Ethiopia provide a mandate for TVET colleges to provide industrial enlargement and development strategy Services for professional human sources and era improvement. Evidence suggests that the general public of survey respondents completed their activity Businesses (almost fifty six. Forty one percent) from apartment homes; the rest the proportion of Programs Micro-entrepreneurs ought to adopt a comprehensive technique specializing in commercial enterprise training, sales and business. Marketing, access to finance and get right of entry to markets as part of a bundle of applications to promote entrepreneurship. Governments and associated agencies have to co-develop and finance with the non-public sector monetary products, with a focus on micro-establishments, are centered at micro-entrepreneurs in states that lack venture capital. Examples consist of coins waft loans, mortgage guarantees and loans primarily based on patron contracts. The relaxation of the article is arranged as follows. The primary model provides a new scoring feature proposed by the weighted product method. We analyze the auctioneer's equilibrium bidding strategies based on predicted returns. In Cobb-Douglas, a utility characteristic is used to make a trade-off between probability of completion and profit, determination of the most preferred bid, and equilibrium bidding techniques are discussed again. The client's income is compared. There are very large auctions that have been identified. demonstrating the robustness of our models.

### Reference

1. Alene, Endalew Terefe. "Determinants that influence the performance of women entrepreneurs in micro and small enterprises in Ethiopia." *Journal of Innovation and Entrepreneurship* 9, no. 1 (2020): 1-20.
2. Ahmad, Syed Zamberi. "Microfinance for women micro and small-scale entrepreneurs in Yemen: achievements and challenges." *International Journal of Entrepreneurship and Small Business* 16, no. 1 (2012): 102-120.
3. Meressa, Hayelom Abrha. "Growth of micro and small scale enterprises and its driving factors: empirical evidence from entrepreneurs in emerging region of Ethiopia." *Journal of Innovation and Entrepreneurship* 9, no. 1 (2020): 1-22.
4. Al-shami, Sayed Samer Ali, Mohd Razali Muhamad, Izaidin Majid, and Nurulizwa Rashid. "Women's entrepreneurs' micro and small business performance: insights from Malaysian microcredit." *International Journal of Entrepreneurship and Small Business* 38, no. 3 (2019): 312-338.
5. De Gobbi, Maria Sabrina. "Mutual guarantee associations for small and micro-entrepreneurs: Lessons learned from Europe and Africa." *African Development Review* 15, no. 1 (2003): 23-34.
6. Testa, Francesco, Natalia Marzia Gusmerottia, Filippo Corsini, Emilio Passetti, and Fabio Iraldo. "Factors affecting environmental management by small and micro firms: The importance of entrepreneurs' attitudes and environmental investment." *Corporate Social Responsibility and Environmental Management* 23, no. 6 (2016): 373-385.
7. Karides, Marina. "Whose solution is it? development ideology and the work of micro-entrepreneurs in Caribbean context." *International Journal of Sociology and Social Policy* (2005).
8. R. Kurinjimalar, S. Vimala, M. Silambarasan, S. Chinnasami. "A Review on Coir fibre Reinforced Composites with Different Matrix", *REST Journal on Emerging trends in Modelling and Manufacturing*, 7(2), (2021):25-32.
9. Tambunan, Tulus. "Development of SME and women entrepreneurs in a developing country: The Indonesian story." *Small Enterprise Research* 15, no. 2 (2007): 31-51.
10. Alonso, Abel Duarte, Alessandro Bressan, and Nikolaos Sakellarios. "Exploring innovation perceptions and practices among micro and small craft breweries: A three-country study." *International Journal of Wine Business Research* (2017).
11. McDade, Barbara E., and Anita Spring. "The 'new generation of African entrepreneurs': networking to change the climate for business and private sector-led development." *Entrepreneurship & Regional Development* 17, no. 1 (2005): 17-42.
12. Wang, Mingxi, Shulin Liu, Shouyang Wang, and Kin Keung Lai. "A weighted product method for bidding strategies in multi-attribute auctions." *Journal of Systems Science and Complexity* 23, no. 1 (2010): 194-208.
13. Das, Bijoy, Suman Sankar Bhunia, Sarbani Roy, and Nandini Mukherjee. "Multi criteria routing in wireless sensor network using weighted product model and relative rating." In *2015 Applications and Innovations in Mobile Computing (AIMoC)*, pp. 132-136. IEEE, 2015.
14. Mateo, José Ramón San Cristóbal. "Weighted sum method and weighted product method." In *Multi criteria analysis in the renewable energy industry*, pp. 19-22. Springer, London, 2012.
15. AmolLokhande, C. Venkateswaran, M. Ramachandran, C. Vidhya, R. Kurinjimalar. "A Study on Various Implications on Reusing in Manufacturing", *REST Journal on Emerging trends in Modelling and Manufacturing*, 7(2), (2021): 63-69.
16. Fitriyari, Novi Sofia, Syifa Afifah Fitriani, and Rosa Ariani Sukamto. "Comparison of weighted product method and technique for order preference by similarity to ideal solution method: Complexity and accuracy." In *2017 3rd International Conference on Science in Information Technology (ICSITech)*, pp. 453-458. IEEE, 2017.
17. Susanto, R., and A. D. Andriana. "Employee recruitment analysis using computer based weighted product model." In *IOP Conference Series: Materials Science and Engineering*, vol. 662, no. 2, p. 022049. IOP Publishing, 2019.
18. Khairina, Dyna Marisa, Muhammad Reski Asrian, and Heliza Rahmania Hatta. "Decision support system for new employee recruitment using weighted product method." In *2016 3rd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)*, pp. 297-301. IEEE, 2016.

19. Supriyono, Heru, and Chintya Purnama Sari. "Developing decision support systems using the weighted product method for house selection." In *AIP Conference Proceedings*, vol. 1977, no. 1, p. 020049. AIP Publishing LLC, 2018.
20. Taufik, I., A. Saleh, C. Slamet, D. S. Maylawati, M. A. Ramdhani, and B. A. Muhammad. "Decision support system design for determining brown sugar quality with weighted product method." In *Journal of Physics: Conference Series*, vol. 1280, no. 2, p. 022019. IOP Publishing, 2019.
21. Platonov, Alexander, Prasad S. Thenkabail, Chandrashekhar M. Biradar, Xueliang Cai, Muralikrishna Gumma, Venkateswarlu Dheeravath, Yafit Cohen et al. "Water productivity mapping (WPM) using Landsat ETM+ data for the irrigated croplands of the Syrdarya River basin in Central Asia." *Sensors* 8, no. 12 (2008): 8156-8180.
22. Balusa, Bhanu Chander, and Jayanthu Singam. "Underground mining method selection using WPM and PROMETHEE." *Journal of the Institution of Engineers (India): Series D* 99, no. 1 (2018): 165-171.