E-ISSN: 2722-0001 73

Granting Credit In Cooperatives Using Profile Matching Method

Pipit Putri Hariani MD1, Indah Purnama Sari2

¹Department of Accounting Education, Universitas Muhammadiyah Sumatera Utara, Indonesia ²Department of InformationTechnology, Universitas Muhammadiyah Sumatera Utara, Indonesia

ABSTRACT

Cooperatives is an institution economic have function in the process of the increase in community welfare. Travel cooperatives not easy to reach position like now. The existence of movement cooperatives as an institution economic expected to act as propulsion engine national economic activity as well as soko teachers the country economy. Bhakti BPJS Kesehatan Service Cooperative is a cooperative engaged in services, forms of cooperative services to the community one is to lend funds (credit) to help resolve the financial problems in the community. In granting the credit cooperatives need to do proper research and calculations to prospective customers who will take credit cooperatives, to avoid mistakes in decision making required data processing is fast, precise and accurate. With the Application Profile Matching Method For Determining Eligibility Lending In BPJS Kesehatan Service Cooperative Bhakti is the best solution to solve the problems that exist in this company, because with this method the decision taken by the cooperative members have been more thorough and detailed than the previous.

Keyword: Decision Support Systems, Profile Matching, The feasibility of the provision of credit.



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Corresponding Author:

Pipit Putri Hariani MD, Department of Accounting Education, Universitas Muhammadiyah Sumatera Utara, Jalan Kapten Muktar Basri No 3 Medan 20238, Indonesia.

Email: pipitputri@umsu.ac.id

INTRODUCTION

The BPJS Health Service Bhakti Cooperative is a cooperative engaged in services, one form of cooperative service to the community is by providing loan funds (credit) to help solve financial problems in the community. In granting credit, cooperatives need to carry out research and proper calculations for prospective customers who will take credit at cooperatives, so that there are no mistakes in making decisions, fast, precise and accurate data processing is needed. Along with the increase in information technology, the data that is processed produces information that is in accordance with what is needed. Likewise, the world economy is experiencing rapid development, especially in the process of extending credit to prospective customers. Hariyani (2010) argues that credit comes from the Latin word "credo" which means "I believe", which is a combination of the Sanskrit word "cred" which means "trust", and the Latin "do" which means "I place". Getting credit means gaining trust. On the basis of trust in someone who needs it, money, goods or services are given on condition that they pay it back or provide a replacement within a certain period of time that has been promised.

The increasing number of prospective customers applying for credit with different economic conditions, demands accuracy in making credit granting decisions, so that the decision taken is the best decision for the cooperative and the credit applicant.

From the description above it is very clear that the BPJS Health Service Bhakti Cooperative has problems or difficulties in serving customers who are eligible for loans, therefore it will help the BPJS Health Service Bhakti Cooperative in solving these problems by sorting each customer who is eligible to be given a loan. "Studying further in the field of revolving economics to analyze creditworthiness using the Profile Matching method, this study aims to identify problems regarding eligibility for granting revolving economic credit by making an analysis of decision support systems for determining creditworthiness" (Angkasa, 2016). It is hoped that with this effort the employees of the Jasa Bhakti Cooperative BPJS Kesehatan will no longer experience difficulties in determining prospective customers who are eligible to be given a loan.

Several previous researchers have used the same method, including:

The process of admitting new students at Mts.Alwasliyah Tanjung Morawa has not been carried out effectively and efficiently, because the process has not been computerized. So it takes a long time to accept new students. With this profile matching method, a computer-based decision support system for new student admissions is created which is expected to help Mts. Alwasliyah in deciding the best alternatives in selecting new student admissions [1].

Employee performance appraisal with the support of a decision support system is one of the implementations of information technology developments. This study uses the profile matching method in a decision support system. The criteria used in the employee performance appraisal decision support system are intellectual and work attitude. The results of this study are to produce a ranking order of the selected good performing employee candidates, and the output of the application can assist decision makers in selecting alternative employee performance [2].

The purpose of this writing is:

- 1. Contribution of thoughts in order to determine the feasibility of granting credit using the Profile Matching method.
- 2. Help cooperatives to select prospective customers who apply for credit with more research.

2. RESEARCH METHOD/MATERIAL AND METHOD/LETERATURE REVIEW

The research method was carried out using the profile matching method. Profile matching is a very important process in human resource management in which the required competencies (capabilities) are first determined. In this process, broadly speaking, it is a process of comparing the salary received by an individual to the credit that will be taken so that differences in competence (gaps) can be identified.

While the required data collection method is as follows:

- A. Observation
 - Conduct direct observations regarding cooperative services in determining the eligibility of granting credit to prospective customers at the BPJS Kesahatan Bhakti Cooperative.
- B. Interview
 - Data collection by way of question and answer directly to Mr. Hartoyo Wiroseputro as the Secretary at the Jasa Bhakti Cooperative BPJS Kesehatan, who helped provide the information needed in this writing.
- C. Library Studies
 - A method in data collection that conducts an assessment of sources by reading books and literature from the internet related to the problem.

3. RESULTS AND DISCUSSION

In the profile matching process, broadly speaking, it is a process of comparing individual competencies to position competencies so that differences in competence (also called gaps) can be identified. The smaller the resulting gap, the greater the weighted value, which means that the candidate has a greater chance of occupying that position. The program system created is profile matching software which functions as a tool to speed up the matching process between position profiles (position soft competencies) and employee profiles (employee soft competencies) so that information can be obtained more quickly, both to find out competency gaps between positions and holders. position as well as in selecting the most suitable candidate for a position (candidate ranking).

Table 1. Description of Criteria Aspects

No	Criteria	Criteria Description		
1	Wages	g		
2	Fund Proposal	u		
3	Years of Services	m		
4	Objective	t		

Table 2. Criteria Aspect Value

	<u> </u>
	1 : Not eligible
Criteria	2 : Not enough
Value	3 : Enough
	4 : Good
	5 : Very Good

Table 3. Customer Assessment

No	Nama	Kriteria				Jumlah
	Nasabah					Usulan (Rp)
		G	U	M	T	
1	Devi S.	3	3	3	4	250.000.000
2	Nyoman W.Y	4	3	2	3	350.000.000
3	Sri Mahfuzi	3	3	3	2	200.000.000
4	Mohamad Rizal	4	3	3	4	350.000.000

Following are some of the stages and formulation of calculations using the profile matching method:

A. The gap

Gap to here is the difference between the position profile and the employee profile or can be shown in the formula below:

Gap = Customer Profile - Achievement Profile

Determination of the achievement profile value will be determined by the company with a value range between 1 to 4. From these values a gap calculation process will be carried out between the customer profile value and the achievement profile value.

Table 4. Gap Value Calculation

No.	Nama Nasabah -	Kriteria			
		G	U	М	Τ
1.	Devi S.	3	3	3	4
2.	Nyoman W.Y	4	3	2	3
3.	Sri Mahfuzi	3	3	3	2
4.	Mohamad Rizal	4	3	3	4
	Gap	4	3	2	3
1.	Devi S.	-1	0	1	1
2.	Nyoman W.Y	0	0	0	0
3.	Sri Mahfuzi	-1	0	1	-1
4.	Mohamad Rizal	0	0	1	1

B. Weighting

After obtaining gaps for each customer, each customer profile is given a weighted value based on the gap value weight table.

Table 5. Gap Value Weight

No.	Selisih	Bobot Nilai	Keterangan		
1.	0	5	Tidak ada selisih (kompetensi sesuai dengan yang dibutuhkan)		
2.	1	4,5	Kompetensi individu kelebihan 1 tingkat level.		
3.	-1	4	Kompetensi individu kekurangan 1 tingkat level.		
4.	2	3,5	Kompetensi individu kelebihan 2 tingkat level.		
5.	-2	3	Kompetensi individu kekurangan 2 tingkat level.		
6.	3	2,5	Kompetensi individu kelebihan 3 tingkat level.		
7.	-3	2	Kompetensi individu kekurangan 2 tingkat level.		
8.	4	1,5	Kompetensi individu kelebihan 4 tingkat level.		
9.	-4	1	Kompetensi individu kekurangan 4 tingkat level.		

Table 6. Determination of Weight Value

	Nama Nasabah		Kriteria				
No		G	U	М	T		
1.	Devi S.	-1	0	1	1		
2.	Nyoman W.Y	0	0	0	0		
3.	Sri Mahfuzi	-1	0	1	-1		
4.	Mohamad Rizal	0	0	1	1		
Nilai Bobot							
1.	Devi S.	4	5	4,5	4,5		
2.	Nyoman W.Y	5	5	5	5		
3.	Sri Mahfuzi	4	5	4,5	4		
4.	Mohamad Rizal	5	5	4,5	4,5		
	•						

C. Determination and Grouping of Core and Secondary Factors

After determining the weight of the gap value, it is then grouped into two groups, namely the core factor group and the secondary factor group.

Calculation of core and secondary Factor is shown using the formula.

Core Factor

Core factors are aspects (competencies) that are most prominent or most needed by a position that are expected to produce optimal performance. The calculation of the core factor can be shown in the formula below:

$$NCF = \frac{\sum NC}{\sum IC}$$
Information: (1)

NCF: The average value of the core factor NC: The total value of the core factor IC: Number of core factor items

Secondary Factor

Secondary factors are items other than the aspects in the core factor. Meanwhile, the secondary factor calculation can be shown in the formula below:

$$NSF = \frac{\sum NS}{\sum IS}$$
 (2)

Information:

NSF: Average value of Secondary factor NS: Total value of Secondary factor IS: Number of secondary factor items

For the calculation of core factors and secondary factors, first determine which aspects or criteria are the core factors (g and u) and secondary factors (m and t). The calculation process is as follows:

1. Devi S.
NCF =
$$\frac{4+5}{2} = \frac{9}{2} = 4,5$$

NSF = $\frac{4,5+4,5}{2} = \frac{9}{2} = 4,5$

2. Nyoman W.Y
NCF =
$$\frac{5+5}{2} = \frac{10}{2} = 5$$

NSF = $\frac{5+5}{2} = \frac{10}{2} = 5$

3. Sri Mahfuzi
NCF =
$$\frac{4+5}{2} = \frac{9}{2} = 4,5$$

NSF = $\frac{4,5+4}{2} = \frac{8,5}{2} = 4,25$
4. Mohamad Rizal

4. Mohamad Rizal NCF =
$$\frac{5+5}{2} = \frac{10}{2} = 5$$

NSF = $\frac{4,5+4,5}{2} = \frac{9}{2} = 4,5$

D. Calculation of Total Value

Based on the calculation results for each of the criteria above, then the total value is calculated based on the percentage of core factors and secondary factors which are expected to affect the performance of each profile.

The calculation formula can be seen in the following formula:

$$N = (x)\%NCF + (x)\%NSF$$
(3)

Information:

N: The total value of the aspect

NCF: The average value of the core factor NSF: Average value of secondary factor (x)%: The percent value entered

For more details, the calculation of the total value first determines the percent value that is input, namely the core factor of 75% and the secondary factor of 25%. Then the core factor and secondary factor values are summed up according to the following formula:

Table 7. Gap Total Value

No	Nama Nasabah	NCF	NSF	Nilai Total
1	Devi S.	4,5	4,5	4,5
2	Nyoman W.Y	. 5	5	5
3	Sri Mahfuzi	4,5	4,25	4,375
4	Mohamad Rizal	5	4,5	4,485

E. Determination of Final Results

The end result of the Profile Matching process is the ranking of the proposed candidates. After each candidate gets the final result, the rank or ranking of the candidates can be determined based on the greater the final result value so that the greater the chance to get it.

Table 8. The Final Result

No	Nama Nasabah	NCF	NSF	Nilai Total
1	Nyoman W.Y	5	5	5
2	Mohamad Rizal	5	4,5	4,485
3	Devi S.	4,5	4,5	4,5
4	Sri Mahfuzi	4,5	4,25	4,375

4. CONCLUSION

From this writing, it can draw the following conclusions:

The process of determining the eligibility of granting credit to the BPJS Health Services Bhakti Cooperative uses the profile matching method which is able to help provide solutions with the specified criteria; The profile matching method is to compare all the criteria including salary, proposed funds, length of service and goals, and also compare the objects that are the target of selection. The results of the decision support analysis will be able to assist the cooperative in determining which customers are suitable to be processed first in determining the feasibility of granting credit in cooperatives; Processed first is the customer who gets the lowest score and so on.

While suggestions that might help in the development of the profile matching method in determining credit eligibility here, other methods can be added, because at this time there are many other methods that can be implemented into DSS which are used to make a decision so that the data obtained is more accurate, and clear.

REFERENCES

- [1] Sari, I.P., Mawengkang, H., & Efendi, S (2019). Fuzzy Analytical Hierarchy Process (FAHP) Ekspansi Untuk Inovasi Kerangka Pengukuran Kinerja. *InfoTekJar: Jurnal Nasional Informatika dan Teknologi Jaringan*, 3(2), 228-233.
- [2] Batubara, I.H., & Sari, I.P (2021). Combination of Analytic Hierarchy Process (AHP) Method and Profile Matching Method with Matrix Decomposition in Determining Olympiad Candidates. *International Journal of Economic, Technology and Social Sciences*, 2, 470-477
- [3] Sari, I.P (2019). Analytical Hierarchy Proses (AHP) Ekspansi untuk Pengambilan Keputusan Masalah dalam Inovasi Kerangka Pengukuran Kinerja. *Universitas Sumatera Utara*.
- [4] Sari, I.P., Hutagalung, F.S., & Hutasuhut, B.K (2020). Determination of Campus Promotion Policy Strategy Applied The Profile Matching Method. *Journal of Computer Science, Information Technology and Telecommunication Engineering* 1 (1), 17-23.
- [5] Ramadhani, F., Al-Khowarizmi, A., & Sari, I.P (2021). Implementasi Metode Topsis Dalam Menangani Masalah Pengalokasian Dosen Pembimbing Skripsi Dilingkungan Fakultas Ilmu Komputer Dan Teknologi Informasi Universitas Muhammadiyah Sumatera Utara. *InfoTekJar: Jurnal Nasional Informatika dan Teknologi Jaringan* 6 (1), 104-110.
- [6] Sari, I.P., Al-Khowarizmi, A.K., Ramadhani, F., & Sulaiman, O.K. (2023). Implementation of the Selection Sort Algorithm to Sort Data in PHP Programming Language. *Journal of Computer Science, Information Technology and Telecommunication Engineering*, 4(1).

E-ISSN: 2722-0001

[7] Hutasuhut, B.K., Batubara, I.H., Sari, I.P (2021). Analisa Sistem Pendukung Keputusan Penentuan Kosentrasi Matakuliah Pilihan menggunakan Metode Topsis. *InfoTekJar: Jurnal Nasional Informatika dan Teknologi Jaringan* 6(1), 11-114.

- [8] Sari, I.P., Batubara, I.H., & Al-Khowarizmi, A (2021). Sensitivity Of Obtaining Errors In The Combination Of Fuzzy And Neural Networks For Conducting Student Assessment On E-Learning. *International Journal of Economic, Technology and Social Sciences (Injects)*, 2(1), 331-338.
- [9] Sari, I.P., Fahroza, M.F., Mufit, M.I., & Qathrunad, I.F (2021). Implementation of Dijkstra's Algorithm to Determine the Shortest Route in a City. *Journal of Computer Science, Information Technology and Telecommunication Engineering*, 2(1), 134-138.
- [10] Batubara, I.H., Saragih, S., Syahputra, E., Armanto, D., Sari, I.P., Lubis, B.S., & Siregar, E.F.S (2022). Mapping Research Developments on Mathematics Communication: Bibliometric Study by VosViewer. *AL-ISHLAH: Jurnal Pendidikan* 14(3), 2637-2648.
- [11] Sari, I.P., Al-Khowarizmi, A.K., & Batubara, I.H. (2021). Analisa Sistem Kendali Pemanfaatan Raspberry Pi sebagai Server Web untuk Pengontrol Arus Listrik Jarak Jauh. *InfoTekJar: Jurnal Nasional Informatika dan Teknologi Jaringan*, 6 (1), 99-103.
- [12] Hariani, P.P., Sari, I.P., & Batubara, I.H. (2021). Implementasi e-Financial Report BUMDes. *IHSAN: JURNAL PENGABDIAN MASYARAKAT*, 3 (2), 169-177.
- [13] Sari, I.P., Basri, Mhd., Ramadhani, F., & Manurung, A.A. (2023). Penerapan Palang Pintu Otomatis Jarak Jauh Berbasis RFID di Perumahan. *Blend Sains Jurnal Teknik*, 2(1), 16-25.
- [14] Batubara, I.H., & Sari, I.P. (2021). Penggunaan software geogebra untuk meningkatkan kemampuan pemecahan masalah matematis mahasiswa. Scenario (Seminar of Social Sciences Engineering and Humaniora), 398-406
- [15] Sari, I.P., & Batubara, I.H. (2020). Aplikasi Berbasis Teknologi Raspberry Pi Dalam Manajemen Kehadiran Siswa Berbasis Pengenalan Wajah. *JMP-DMT* 1(4), 6.
- [16] Batubara, I.H., Sari, I.P., Hariani, P.P., Saragih, M., Novita, A., Lubis, B.S., & Siregar, E.F.S. (2021). Pelatihan Software Geogebra untuk Meningkatkan Kualitas Pembelajaran Matematika SMP Free Methodist 2. Martabe: Jurnal Pengabdian Kepada Masyarakat, 4(3), 854-859.
- [17] Sari., I.P, Batubara., I.P, Al-Khowarizmi., A, & PP Hariani. (2022). Perancangan Sistem Informasi Pengelolaan Arsip Digital Berbasis Web untuk Mengatur Sistem Kearsipan di SMK Tri Karya. *Wahana Jurnal Pengabdian kepada Masyarakat* 1 (1), 18-24.
- [18] Batubara., I.H, Sari., I.P, EFS Siregar, & BS Lubis. (2021). Meningkatkan Kemampuan Penalaran Matematika Melalui Metode Penemuan Terpandu Berbantuan Software Autograph. *Seminar Nasional Teknologi Edukasi Sosial dan Humaniora* 1 (1), 699-705.
- [19] Sari., I.P, A Syahputra, N Zaky, RU Sibuea, & Z Zakhir. (2022). Perancangan sistem aplikasi penjualan dan layanan jasa laundry sepatu berbasis website. *Blend sains jurnal teknik* 1 (1), 31-37.
- [20] Sari., I.P, A Azzahrah, FQ Isnaini, L Nurkumala, & A Thamita. (2022). Perancangan sistem absensi pegawai kantoran secara online pada website berbasis HTML dan CSS. *Blend sains jurnal teknik* 1 (1), 8-15.
- [21] Sari.,I.P, & Ramadhani., F. (2021). Pengaruh Teknologi Informasi Terhadap Kewirausahaan Pada Aplikasi Perancangan Jual Beli Jamu Berbasis WEB. *Prosiding Seminar Nasional Kewirausahaan* 2 (1), 874-878.
- [22] Sari., I.P, A Jannah, AM Meuraxa, A Syahfitri, & R Omar. (2022). Perancangan Sistem Informasi Penginputan Database Mahasiswa Berbasis Web. *Hello World Jurnal Ilmu Komputer* 1 (2), 106-110.
- [23] Hutasuhut, B.K., Sari, I.P., & Al-Khowarizmi, A (2023). Analysis the Effect of Digitalization and Technology on Web-Based Entrepreneurship. *Journal of Computer Science, Information Technology and Telecommunication Engineering* 4(1).
- [24] Sari., I.P, & Batubara., I.H. (2021). Perancangan Sistem Informasi Laporan Keuangan Pada Apotek Menggunakan Algoritma K-NN. Seminar Nasional Teknologi Edukasi dan Humaniora (SiNTESa) 1 (2021 ke 1.
- [25] Sari., I.P, & Batubara., I.H. (2021). User Interface Information System for Using Account Services (Joint Account) WEB-Based. International Journal of Economic, Technology and Social Sciences (Injects), 462-469.
- [26] PP Hariani, Sari., I.P, & Batubara., I.H. (2021). Android-Based Financial Statement Presentation Model. *JURNAL TARBIYAH* 28 (2), 1-16.
- [27] Sari., I.P, Batubara., I.H, & M Basri. (2022). Implementasi Internet of Things Berbasis Website dalam Pemesanan Jasa Rumah Service Teknisi Komputer dan Jaringan Komputer. *Blend Sains Jurnal Teknik* 1 (2), 157-163.
- [28] Sari., I.P., Al-Khowarizmi., A, & Batubara., I.H. (2021). Implementasi Aplikasi Mobile Learning Sistem Manajemen Soal dan Ujian Berbasis Web Pada Platform Android. IHSAN: JURNAL PENGABDIAN MASYARAKAT 3 (2), 178-183.
- [29] Batubara, I.H., Saragih, S., Simamora, E., Napitupulu, E.E., Sari, I.P. (2022). Analysis of Student's Mathematical Communication Skills through Problem Based Learning Models Assisted by Augmented Reality. Budapest *International Research and Critics Institute-Journal (BIRCI-Journal)*, 5(1), 1024-1037.