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MICRO BINARY TOPOLOGICAL SPACES AND ITS APPLICATION

C. Sangeetha and G. Sindhu
Department of Mathematics, Nirmala College for Women, Coimbatore, Tamil Nadu, India-641018.
Email: sangeenaveen1234@gmail.com, sindhukannan23@gmail.com

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Abstract

Micro binary topology is a simple expansion of nano binary topology. The goal of this work is to create Micro Binary Topological Spaces *(MBTS)* as a concept to reduce conditional qualities in troubleshooting real-world issues. It can also be used to investigate the risk factors for students placement problems. The second goal of the initiative is to provide the best quality possible for students. As a result, the Micro Binary topological spaces method can be used to select the characteristics required to determine the students level.

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Keywords and Phrases: Core; Lower Approximation; Upper Approximation; Boundary Region; Micro Binary Topological Space.

1 Introduction

Recently, a variety of theories have been proposed to handle uncertainty, imprecision, and ambiguity.

Pawlak [11] created rough set theory in 1982. Jothi and Thangavelu [5, 6] introduced the concept of binary topology *(BT)* and discussed some of its basic features.

In the beginning, Thivagar [9] introduced the concept of Nano Topological Space *(NTS)*. Jayalakshmi and Janaki [7] used *NTS* in Medical Diagnosis. Annam and Elizabeth [3] created the *NBTS*. It was Mary Margaret *et al.* [10]. The first person to propose Micro *TS (MTS)* was Chandrasekar [4]. Rani, Bhavani, and Kumar [8] were the authors of An Application of *MTS* with Decision-Making Problem in Medical Events. A variety of multi-criteria decision-making *(MCDM)* methods were created by Abdel-Basset *et al.* [1,2]. Recently, in 2024 Sangeetha and Sindhu [12] introduced the Micro Binary Topological Spaces *(MBTS)*.

In this paper, the concept of *(MBTS)* is used to solve the *MCDM* problem and to determine the factors that determine a students placement level.

2 Application of Micro Binary Topological Space

In this section, we develop the concept of *(MBTS)* and its real-life application.

In this example, we employ the *(MBTS)* to examine the topological reaction of attributes in the data set to discover the important factors of "students not picked for placement". The data set is based on Lack of Aptitude Preparation *(LoAP)*, Low Confidence *(LC)*, Limited Participation *(LP)*, Poor Time Management *(PTM)*, Lack of Technical Skills *(LoTS)*, and Poor Communication Skills *(PCS)*. We examine the following table on the various attributes of students given below. From this data collection, we can identify the key factor that kept students from choosing the placement.

Here, $A = \{u, u_I, u_{II}, u_{III}, u_{IV}\}$ and $B = \{v, v_I, v_{II}, v_{III}, v_{IV}\}$ be the set of students where $(A, B) = (\{A_i\}, \{B_j\})(i, j) = 0, 1, 2, 3, 4(\{U_i\}, \{V_j\})$ and $\Omega = \{LoAP, LC, LP, PTM, LoTS, PCS\}$ the set of factors that may lead to not selected for the placement.

Table* 2.1: Students's possible attributes*

Students	LoAP	LC	LP	PTM	LoTS	PCS	Result
$(\{u\}, \{v\})$	$\surd$	$\times$	$\surd$	$\surd$	$\times$	$\times$	SELECT
$(\{u_I\}, \{v_I\})$	$\surd$	$\times$	$\surd$	$\surd$	$\times$	$\surd$	REJECT
$(\{u_{II}\}, \{v_{II}\})$	$\times$	$\surd$	$\times$	$\surd$	$\surd$	$\times$	SELECT
$(\{u_{III}\}, \{v_{III}\})$	$\surd$	$\times$	$\surd$	$\surd$	$\times$	$\surd$	REJECT
$(\{u_{IV}\}, \{v_{IV}\})$	$\times$	$\times$	$\times$	$\times$	$\times$	$\surd$	REJECT

Table-2.1 gives the information of the set of students.

Case-I Students selected for placement

$$(A,B)/\Re(\Omega) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on (A,B) and

$$(x_1,x_2) = \{(\{u\},\{v\}),(\{u_{II}\},\{v_{II}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ\}.$$

.

$$\mu = \{\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ,\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ,$$
$$\prec(\{u,u_{II},u_{IV}\},\{v,v_{II},v_{IV}\})\succ\}.$$

Step-1 Separate "Lack of Aptitude Preparation" from Ω

$(A,B)/\Re(\Omega - LoAP) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$ be an equivalence relation on *(A, B)* and $(x_1,x_2) = \{(\{u\},\{v\}),(\{u_{II}\},\{v_{II}\})\}$ be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LoAP)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ\}.$$
$$\mu = \{\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LoAP)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ,$$
$$\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ,\prec(\{u,u_{II},u_{IV}\},\{v,v_{II},v_{IV}\})\succ\}.$$

Hence $\mu_{\Re}(\Omega - LoAP)(x_1,x_2) = \mu_{\Re}(\Omega)(x_1,x_2)$.

Step-2 Takeout "Low Confidence" from Ω

$$(A,B)/\Re(\Omega - LC) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on (A,B) and

$$(x_1,x_2) = \{(u,v),(\{u_{II}\},\{v_{II}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LC)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ\}.$$
$$\mu = \{\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LC)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ,\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ,$$
$$\prec(\{u,u_{II},u_{IV}\},\{v,v_{II},v_{IV}\})\succ\}.$$

Hence $\mu_{\Re}(\Omega - LC)(x_1,x_2) = \mu_{\Re}(\Omega)(x_1,x_2)$.

Step-3 Separate "Limited Participation" from Ω

$$(A,B)/\Re(\Omega - LP) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and $(x_1,x_2) = \{(u,v),(\{u_{II}\},\{v_{II}\})\}$ be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LP)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ\}.\mu = \{\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LP)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ,$$
$$\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ,\prec(\{u,u_{II},u_{IV}\},\{v,v_{II},v_{IV}\})\succ\}.$$

Hence $\mu_{\Re}(\Omega - LP)(x_1,x_2) = \mu_{\Re}(\Omega)(x_1,x_2)$.

Step-4 Remove "Poor Time Management" from Ω

$$(A,B)/\Re(\Omega - PTM) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on (A,B) and $(x_1,x_2) = \{(\{u\},\{v\}),(\{u_{II}\},\{v_{II}\})\}$ be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - PTM)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ\}.\mu = \{\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - PTM)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ,$$
$$\prec(\{u_{II},u_{IV}\},\{v_{II},v_{IV}\})\succ,\prec(\{u,u_{II},u_{IV}\},\{v,v_{II},v_{IV}\})\succ\}.$$

Hence $\mu_{\Re}(\Omega - PTM)(x_1,x_2) = \mu_{\Re}(\Omega)(x_1,x_2)$.

Step-5 Takeout "Lack of Technical Skills" from Ω

$$(A,B)/\Re(\Omega - LoTS) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and $(x_1,x_2) = \{(\{u\},\{v\}),(\{u_{II}\},\{v_{II}\})\}$ be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LoTS)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ\}.\mu = \{\prec(\{u_{III},u_{IV}\},\{v_{III},v_{IV}\})\succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LoTS)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u,u_{II}\},\{v,v_{II}\})\succ,$$
$$\prec(\{u_{III},u_{IV}\},\{v_{III},v_{IV}\})\succ,\prec(\{u,u_{II},u_{III},u_{IV}\},\{v,v_{II},v_{III},v_{IV}\})\succ\}.$$

Hence $\mu_{\Re}(\Omega - LoTS)(x_1,x_2) \neq \mu_{\Re}(\Omega)(x_1,x_2)$.

Step-6 Separate "Poor Communication Skills" from Ω

$$(A,B)/\Re(\Omega - PCS) = \{(\{u,u_I,u_{III}\},\{v,v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and $(x_1,x_2) = \{(\{u\},\{v\}),(\{u_{II}\},\{v_{II}\})\}$ be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - PCS)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u_{II}\},\{v_{II}\})\succ,\prec(\{u,u_I,u_{II},u_{III}\},\{v,v_I,v_{II},v_{III}\})\succ,$$
$$\prec(\{u,u_I,u_{III}\},\{v,v_I,v_{III}\})\succ\}.\mu = \{\prec(\{u\},\{v\})\succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - PCS)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec(\{u_{II}\},\{v_{II}\})\succ,\prec(\{u,u_{II}\},\{v,v_{II}\})\succ,$$
$$\prec(\{u,u_I,u_{II},u_{III}\},\{v,v_I,v_{II},v_{III}\})\succ,\prec(\{u,u_I,u_{III}\},\{v,v_I,v_{III}\})\succ,\prec(\{u\},\{v\})\succ\}.$$

Hence $\mu_{\Re}(\Omega - PCS)(x_1,x_2) \neq \mu_{\Re}(\Omega)(x_1,x_2)$.

Case-II Students not selected for placement

$$(A,B)/\Re(\Omega) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and

$$(x_1,x_2) = \{(\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{IV}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega)(x_1,x_2) = \{(\phi,\phi),(A,B),(\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{IV}\})\}.\mu = \{\prec(\{u,u_{IV}\},\{v,v_{IV}\}).$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega)(x_1,x_2)) = \{(\phi,\phi),(A,B),\prec(\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{Iv}\})\succ,$$
$$\prec(\{u,u_{IV}\},\{v,v_{IV}\})\succ,\prec(\{u,u_I,u_{III},u_{IV}\},\{v,v_I,v_{III},v_{IV}\})\succ\}.$$

Step-1 Separate "Lack of Aptitude Preparation" from Ω

$$(A,B)/\Re(\Omega - LoAP) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and

$$(x_1,x_2) = \{(\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{IV}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LoAP)(x_1, x_2) = \{(\phi, \phi), (A, B), (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{IV}\})\}.\mu = \{\prec (\{u, u_{IV}\}, \{v, v_{IV}\}).$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LoAP)(x_1, x_2)) = \{(\phi, \phi), (A, B), \prec (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{Iv}\}) \succ, \prec (\{u, u_{IV}\}, \{v, v_{IV}\}) \succ, \prec (\{u, u_I, u_{III}, u_{IV}\}, \{v, v_I, v_{III}, v_{IV}\}) \succ\}.$$

Hence

$$\mu_{\Re}(\Omega - LoAP)(x_1, x_2)) = \mu_{\Re}(\Omega)(x_1, x_2))$$

.

Step-2 Takeout "Low Confidence" from Ω

$$(A, B)/\Re(\Omega - LC) = \{(\{u\}, \{v\}), (\{u_I, u_{III}\}, \{v_I, v_{III}\}), (\{u_{II}\}, \{v_{II}\}), (\{u_{IV}\}, \{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and

$$(x_1, x_2) = \{(\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{IV}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LC)(x_1, x_2) = \{(\phi, \phi), (A, B), (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{IV}\})\}.\mu = \{\prec (\{u, u_{IV}\}, \{v, v_{IV}\}).$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LC)(x_1, x_2)) = \{(\phi, \phi), (A, B), \prec (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{Iv}\}) \succ, \prec (\{u, u_{IV}\}, \{v, v_{IV}\}) \succ, \prec (\{u, u_I, u_{III}, u_{IV}\}, \{v, v_I, v_{III}, v_{IV}\}) \succ\}.$$

Hence $\mu_{\Re}(\Omega - LC)(x_1, x_2)) = \mu_{\Re}(\Omega)(x_1, x_2))$.

Step-3 Separate "Limited Participation" from Ω

$$(A, B)/\Re(\Omega - LP) = \{(\{u\}, \{v\}), (\{u_I, u_{III}\}, \{v_I, v_{III}\}), (\{u_{II}\}, \{v_{II}\}), (\{u_{IV}\}, \{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and

$$(x_1, x_2) = \{(\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{IV}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LP)(x_1, x_2) = \{(\phi, \phi), (A, B), (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{IV}\})\}.$$
$$\mu = \{\prec (\{u, u_{IV}\}, \{v, v_{IV}\}).$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LP)(x_1, x_2)) = \{(\phi, \phi), (A, B), \prec (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{Iv}\}) \succ, \prec (\{u, u_{IV}\}, \{v, v_{IV}\}) \succ, \prec (\{u, u_I, u_{III}, u_{IV}\}, \{v, v_I, v_{III}, v_{IV}\}) \succ\}.$$

Hence $\mu_{\Re}(\Omega - LP)(x_1, x_2)) = \mu_{\Re}(\Omega)(x_1, x_2))$.

Step-4 Remove "Poor Time Management" from Ω

$$(A, B)/\Re(\Omega - PTM) = \{(\{u\}, \{v\}), (\{u_I, u_{III}\}, \{v_I, v_{III}\}), (\{u_{II}\}, \{v_{II}\}), (\{u_{IV}\}, \{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and

$$(x_1, x_2) = \{(\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{IV}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - PTM)(x_1, x_2) = \{(\phi, \phi), (A, B), (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{IV}\})\}.$$
$$\mu = \{\prec (\{u, u_{IV}\}, \{v, v_{IV}\}).$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - PTM)(x_1, x_2)) = \{(\phi, \phi), (A, B), \prec (\{u_I, u_{III}, u_{IV}\}, \{v_I, v_{III}, v_{Iv}\}) \succ, \prec (\{u, u_{IV}\}, \{v, v_{IV}\}) \succ, \prec (\{u, u_I, u_{III}, u_{IV}\}, \{v, v_I, v_{III}, v_{IV}\}) \succ\}.$$

Hence

$$\mu_{\Re}(\Omega - PTM)(x_1, x_2)) = \mu_{\Re}(\Omega)(x_1, x_2)).$$

Step-5 Takeout "Lack of Technical Skills" from Ω

$$(A,B)/\Re(\Omega - LoTS) = \{(\{u\},\{v\}),(\{u_I,u_{III}\},\{v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and

$$(x_1,x_2) = \{(\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{IV}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - LoTS)(x_1,x_2) = \{(\phi,\phi),(A,B),(\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{IV}\})\}.$$

$$\mu = \{\prec (\{u_{II},u_{IV}\},\{v_{II},v_{IV}\}).$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - LoTS)(x_1,x_2)) = \{(\phi,\phi),(A,B),\prec (\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{IV}\}) \succ,$$
$$\prec (\{u_{II},u_{IV}\},\{v_{II},v_{IV}\}) \succ, \prec (\{u_I,u_{II},u_{III},u_{IV}\},\{v_I,v_{II},v_{III},v_{IV}\}) \succ\}.$$

Hence

$$\mu_{\Re}(\Omega - LoTS)(x_1,x_2)) \neq \mu_{\Re}(\Omega)(x_1,x_2)).$$

Step 6 Separate "Poor Communication Skills" from Ω

$$(A,B)/\Re(\Omega - PCS) = \{(\{u,u_I,u_{III}\},\{v,v_I,v_{III}\}),(\{u_{II}\},\{v_{II}\}),(\{u_{IV}\},\{v_{IV}\})\}$$

be an equivalence relation on *(A, B)* and

$$(x_1,x_2) = \{(\{u_I,u_{III},u_{IV}\},\{v_I,v_{III},v_{IV}\})\}$$

be the set of students selected for placement cell. Then the NBT is given by,

$$\tau_{\Re}(\Omega - PCS)(x_1,x_2) = \{(\phi,\phi),(A,B),(\{u_{IV}\},\{v_{IV}\}),(\{u,u_I,u_{III},u_{IV}\},\{v,v_I,v_{III},v_{IV}\}),(\{u,u_I,u_{III}\},$$
$$\{v,v_I,v_{III}\})\}.$$

$$\mu = \{\prec (\{u\},\{v\}) \succ\}.$$

Then the MBT is given by,

$$\mu_{\Re}(\Omega - PCS)(x_1,x_2) = \{(\phi,\phi),(A,B),\prec (\{u\},\{v\}) \succ, \prec (\{u_{IV}\},\{v_{IV}\}) \succ, \prec (\{u,u_{IV}\},\{v,v_{IV}\}) \succ,$$
$$\prec (\{u,u_I,u_{III},u_{IV}\},\{v,v_I,v_{III},v_{IV}\}) \succ, \prec (\{u,u_I,u_{III}\},\{v,v_I,v_{III}\}) \succ\}.$$

Hence $\mu_{\Re}(\Omega - PCS) \neq \mu_{\Re}(\Omega)(x_1,x_2)$.

3 Observation

Figure 3.1 shows lack of technical skills and poor communication skills are the major impacts of not being selected for student placement.

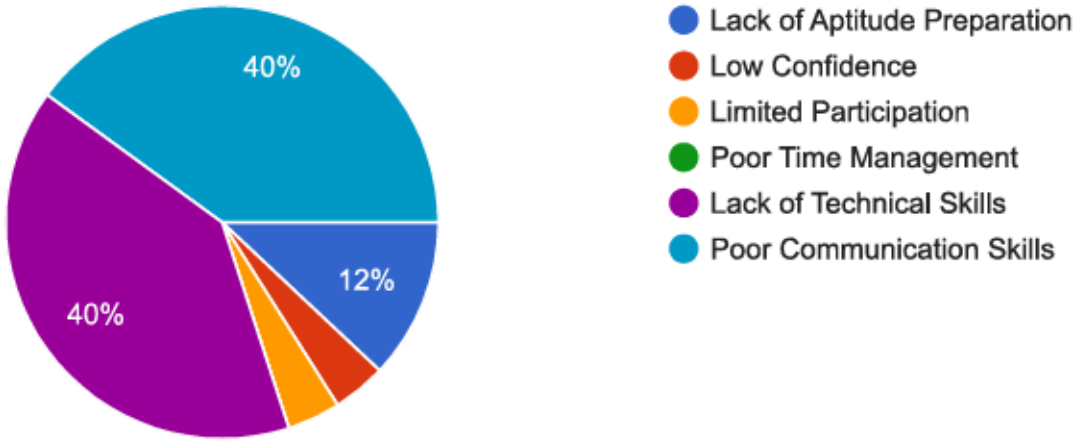

***Figure* 3.1**

4 Conclusion

In the end, the placement process can teach both chosen and non-chosen students valuable lessons. The chosen pupils ought to face their new chances with zeal and an openness to learning. Those who are not chosen can utilize this experience to strengthen their will and fortitude. Every student must understand that every experience advances their development both personally and professionally. They can use these circumstances as stepping stones to their future success if they remain upbeat and proactive.

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