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Efficient and Social Flexi Based Adaptive Immigrant Absorption Model for Improved Migrant Psychology

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Abstract

Towards analyzing migrant standard, various models are defined in literature. The methods consider economic status and educational standards in the management of migrants. However, they suffer to manage the immigrants in efficient way. To handle this issue, a novel Religious and social flexi based adaptive immigrant absorption model (RSFAIAM) is presented in this article. The model uses the Mexican immigrant migration data set. The data set has been preprocessed according to the states of Mexico and analyzes various factors according to religious and social comfort. The Religious Flexi Analysis (RFA) algorithm considers the migrant traffic, migrant violation, judicial security and others. Similarly, the Social Flexi Analysis (SFA) algorithm considers the intra nation marriage, social mobility, migrant welfare activities and others. The RFA algorithm analyze the trust of nation in terms of religious security to compute Religious Score (RS) and SFA algorithm analyze the trust of nation on social comfort by computing Social Score (SS). Using these two analyses, the method computes the Migrant Attraction Score (MTS) to improve the psychology of migrant. The proposed method improves the performance of migrant management and risk analysis.

Keywords: *Migrant Management, Risk Analysis, RSFAIAM, RFA, SFA, MTS.*

Introduction

The modern human society looks to migrate to different countries according to their requirement. The people living in any country tries to migrate to another country for variety of reasons. For examples, the people from African countries looks to migrate to American states for different reasons like employment, peaceful living and for other personal developments. On the other side, the youngsters from Asian countries migrate to Europe countries for education, employment and other reasons. The people move to other countries for education does not come back to their own country but they took a job in the country where they have migrated and settle there for their life. This would support the development of the migrated country and also their own.

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The people migrated to another country faces different challenges like social acceptance and religious discomfort. For example, the people living in migrated country have their own social environment which would be unsuitable or discomfort for the person who migrated. Because, they cannot directly adapted to their environment and it would be more trouble for them. Similarly, the religious support for the people migrated would not be available for the people who have migrated. For example, Gulf countries follows concrete rules on their religious and social activities. This would not be suitable for the people from Europe and others. The person migrated would be struggling to get adapted to their rules and regulations. In some times, they would be sentenced to death for small reasons which cannot be questioned by the embassy as well.

To support migration management, there are number of systems available in literature. Some of the methods would consider the migrated population and freedom factors. Some of them uses rate of migration from external world as the key in deciding the migration country. All these methods suffer with poor performance in migration management. It is necessary to consider few other factors like social fitness of the country to which the migration to be made. By considering such social fitness, the person will comfortable in moving with the target society. Similarly, the religious freedom factor must be considered in the selection of migration country. Because, there are number of issues can be pointed which have been generated against the migrated people according to religious factors. The migrated people would not be feel free to involve in the religious activities which is their own rights in any country. Even though the country has the rule for such activities, they will not be followed strictly to support them.

By considering all these issues, an efficient Religious and Social Flexi Based Adaptive Immigrant Absorption Model (RSFAIAM) is presented in this article. The model is focused on analyzing the flexibility of the country in providing religious freedom and social fitness for the migrated people. The detailed working of the proposed RSFAIAM model is sketched in the next section. This article is structured to provide general introduction on the problem in section 1, and section 2 discusses the literature of the methods around the problem. The section 3, briefs the working of the proposed model and section 4 presents the evaluation results. Finally, section 5, discusses the conclusion of the proposed work.

Related Works:

There exist number of approaches around migration management and this part discusses set of methods around the problem.

A metropolis funded qualitative study is presented in [1], which analyses the integration policies and services according to geo-political context on the relocating migrants in Canada.

Integration of new migrants in Sweden with Church is discussed in [2], which analyze the effect of religious society in integrating the new arrivals. Also, the article studies the feel of employees of the Sweden Church about their conditions.

The diaspora forming on autochthonous Ukrainians is discussed in [3], which offers a reflection on heritage in the context of diaspora-forming processes examined from an anthropological perspective. The psychological first aid (PFA) for the Mexican on the nongovernmental migrants is discussed in [4], which analyze the feasible aid can be provided from various volunteers in long term.

Adapting local immigrant partnership (LIP) towards migrant management by considering housing affordability, family, lifestyle is presented in [5], which analyze the fact of fitting them with the labor market according to their skills according to the policy.

An education and attitudinal difference among majority and minority society is considered in [6] towards migration management. A local policy based decline model (LPDM) is presented in [7], which combines debates of peripheral cities and rural communities of Netherland and Poland. Risk evaluation on adapting women worker as a intermediary role in NGO between lesbian, bisexual and queer migrant is discussed in [8], which consider the international protection in immigration countries. The Sexual Orientation, Gender Identity and Expression, and Sex Characteristics (SOGIESC) and, on the other, to understand whether these women's activities constitute an opportunity to construct new gendered and sexual imaginaries to the extent that they themselves live a web of experiences that are in some ways similar to those of migrant women.

An Longitudinal Immigration Database (IMDB) based integration model is presented in [9], which examine the short-term effectiveness of varying integration pathways and their long-term implications through an analysis of income trajectories.

The role of intergenerational educational mobility in shaping attitudes towards immigration is studied in [10], which analyze the upward, downward and stagnant intergenerational educational mobility in migrants.

The effect of sociopolitical violence against the immigrants are discussed in [11], which points the Venezuelan migrant and refugee women and girls (VMRWG) are among the most affected. We conducted a cross-sectional qualitative and Participatory Action Research (PAR) project to characterize the risk environments for VMRWG across migration phases.

The justice and rule of law for the migrants in US is presented in [12], which publishes different articles about the rule and justice given for the migrants.

The problem of integration with the society for the refugees is presented in [13], which points the absence of integration policies and reluctance of host government to integrate them.

An integration policy recommendation model is presented in [14], which outlines ways that situations of protracted displacement and insecurity present challenges in four interconnected arenas of life: housing, legal status, employment, and emotional well-being.

In [15], explore different strategies for integration of refugee health services with host population health systems. It will highlight successful policy implementation and innovative approaches as well as predict potential barriers to success via a population-centered approach that emphasizes the importance of supporting host communities concurrently with displaced populations.

All the above discussed approaches suffer to achieve higher performance in migration management.

Religious and Social Flexi Based Adaptive Immigrant Absorption Model (RSFAIAM):

The Religious and social flexi based adaptive immigrant absorption model (RSFAIAM) model uses the Mexican immigrant migration data set. To start with, the data set has been preprocessed to normalize them. Further the method applies the Religious Flexi Analysis (RFA) algorithm to measure Religious Score (RS) which represent the religious security of the country. Similarly, the method applies Social Flexi Analysis (SFA) algorithm to measure the social integration security of the country, by computing Social Score (SS). Using these two analyses, the method computes the Migrant Attraction Score (MTS) to improve the psychology of migrant.

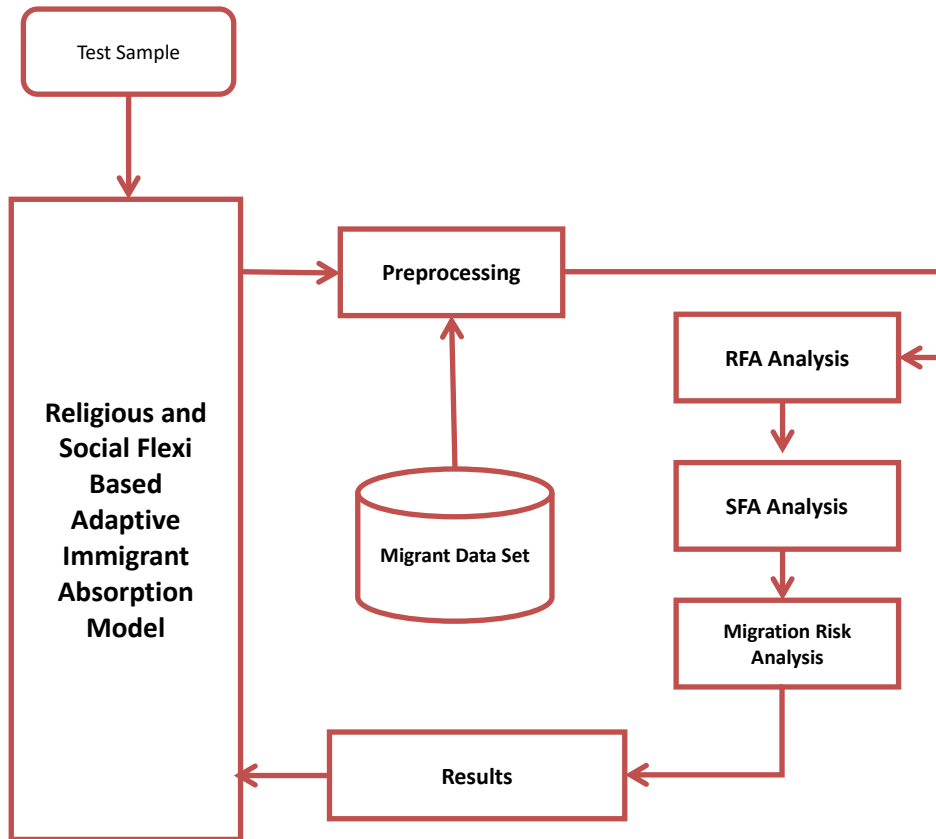


Figure 1: Architecture of proposed (RSFAIAM) Model

The working model of proposed RSFAIAM system is presented in Figure 1, and the stages of the model has been discussed in detail in this part.

Preprocessing:

The preprocessing scheme fetches the migration data set given and identifies the set of all features present in entire data set. With the feature set identified, the method traverse through each of the record and verifies the presence of dimensions and values. If there is any record with missing dimension and missing values, then it has been considered as incomplete and removed from the set. Such noise removed data set has been used towards risk analysis.

Algorithm:

Input: Migration Traces Set MTs

Output: Preprocessed set Ps.

Begin

Fetch MTS.

$$Size(MTS)$$

Find set of features SFs = $(\sum_{i=1}^{Size(MTS)} Features(MTS(i))! \in Ps) \cup PS$

For each record R

$$size(SFS)$$

If $SFS(i) \in R$ && $R(i) \neq \text{Null}$ then

$$i = 1$$

Add to preprocessed set $Ps = PS \cup R$

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Else
    leave
End
End
Stop

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The above pseudo code represent the working of preprocessing algorithm which finds the set of features in the data set and verifies each record for the possession of values. If any of the record is identified with missing feature and value, then it has been eliminated from the set.

RFA Analysis:

The religious flexi analysis algorithm measures the fitness of any country for the religious activities of the migrated people. To measure the religious fitness of the country, the method considers migrant traffic, migrant violation, judicial security and others. With the use of preprocessed set, the method computes the frequency of migrant traffic belongs to specific religion. Similarly, the method computes the migrant violation frequency, and judicial security factor. Using these measures, the method estimates the value of Religious score (RS) for the nation considered. The estimated value of RS has been used towards risk analysis.

Algorithm:

Input: Preprocessed set Ps, Religion R

Obtain: Religious Score Rs.

Begin

Read Ps and R.

Find the religious traces $Res = \sum_{i=1}^{Size(Ps)} Ps(i).ImmigrantReligion == R$

Compute Migrant Frequency MF.

MF =

$$\frac{\sum_{i=1}^{Size(Res)} Count(Res(i).MigrateYear==CurrentYear)}{\sum_{i=1}^{Size(Ps)} Count(Ps(i).MigrateYear==CurrentYear)} \times 100$$

Compute Violation Frequency VF.

VF =

$$\frac{\sum_{i=1}^{Size(Res)} Count(Res(i).MigrateYear==CurrentYear \&\& Res(i).Violation==Yes)}{\sum_{i=1}^{Size(Ps)} Count(Ps(i).MigrateYear==CurrentYear \&\& Ps(i).violation==Yes)} \times 100$$

Compute Judicial Security factor JSF.

$$JSF = \frac{\sum_{i=1}^{size(Res)} Count(Res(i).JudicialEnforcement==Yes)}{size(Ps)} \times 100$$

$$\text{Measure Religious Score } Rs = \frac{JSF}{VF} \times MF$$

Stop

The above discussed algorithm computes the religious score by analyzing the religious flexi of any country according to the religion considered. The estimated value of RS has been used towards risk analysis.

SFA Analysis:

The social flexi analysis algorithm analyze the nation for the social fitness and flexibility by considering algorithm considers the intra nation marriage, social mobility, migrant welfare activities and others. The method uses the intra nation marriage factor to analyze the flexibility of the country for its integration of immigrant with their own society. Similarly, the method computes the social mobility factor according to the flexibility of the nation in allowing the refugees or immigrant to get settle on all the region. Also, the method compute the Welfare factor according to the number of welfare activities introduced for the growth of the migrant in the country. Using all these factors, the method computes the Social Support (SS) to support risk analysis.

Algorithm:

Input: Preprocessed set Ps, Country C

Output: Social Support Ss.

Begin

Read Ps and C.

$$\text{Collect the traces of country } CT = \sum_{i=1}^{Size(PS)} PS(i).Country == C$$

$$\text{Compute Intra Nation Marriage Factor } Inmf = \frac{\sum_{i=1}^{Size(CT)} CT(i).LifePartner \rightarrow C}{Size(CT)} \times 100$$

$$\text{Compute Social Mobility Factor } Smf = \frac{\sum_{i=1}^{Size(CT)} CT(i).Location == Selective}{Size(CT)} \times 100$$

$$\text{Compute Migrant Welfare Factor } Mwf = \frac{\sum_{i=1}^{Size(CT)} CT(i).welfare == Given}{Size(CT)} \times 100$$

$$\text{Compute Social Support } Ss = \frac{Smf}{Mwf} \times Inmf$$

Stop

The above social flexi analysis algorithm computes intra nation marriage factor, social mobility factor and migrant welfare factor to compute social support value. The social support value has been used to perform risk analysis.

Risk Analysis:

The proposed model performs risk analysis according to the data set given. To perform this, the method applies preprocessing algorithm over the data set given. With the preprocessed data, the method applies Religious Flexi Analysis and Social Flexi Analysis. The RFA algorithm computes the value of religious support and SFA algorithm computes the value of social support. Using these two values, the method computes the value of Migrant Attraction Score (MAS) to decide the fitness of the country for migration.

Algorithm:

Input: Migrant Data set Mds

Output: Country C

Begin

 Read Mds.

 Ps = Preprocessing (mds)

 For each country c

 Rs = RFA (Ps, c)

 Ss = SFA (Ps, C)

 Compute MAS = RS×Ss

 End

 Country C = Choose the country with maximum MAS.

Stop

The above risk analysis model computes the value of MAS for different countries of migration. Based on the value of MAS, the method identifies the country suitable for the immigrant.

Results and Discussion:

The proposed Religious and Social Flexi Based Adaptive Immigrant Absorption Model (RSFAIAM) model has been implemented and evaluated for its performance. The performance of the method is measured at the presence of different number of traces in the data set. The results generated by various models are counted and mapped with the performance of others.

Table 1: Experimental Details

Parameter	Value
Data set	Mexican data set
No of features	20
No of traces	1 million

The experimental setup used to evaluate the performance of proposed model is presented in Table 1. Accordingly, the performance of the method are measured and compared with the results of other approaches.

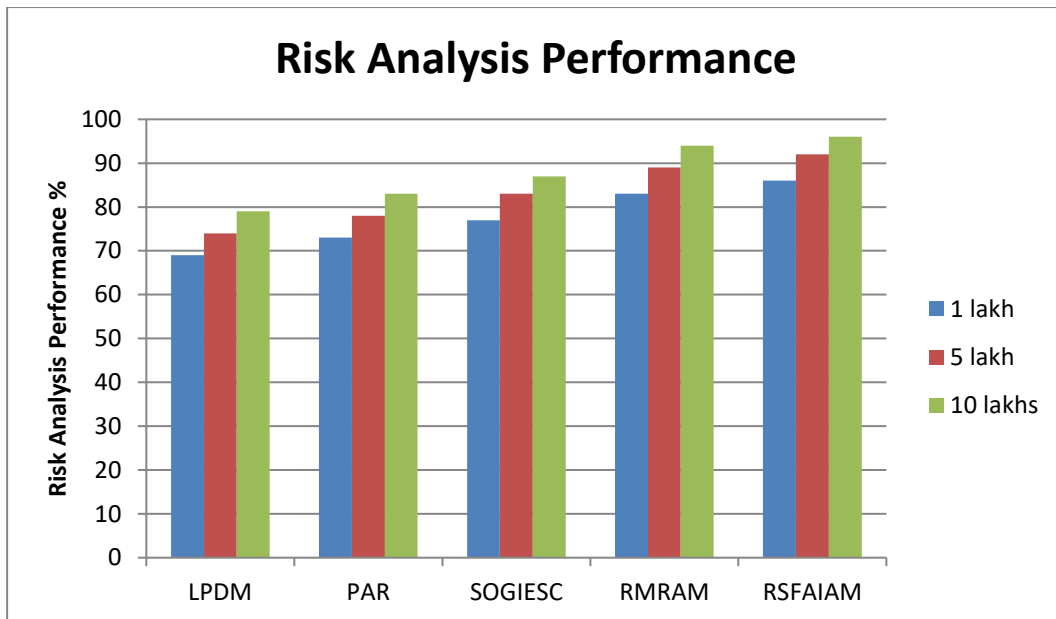


Figure 2: Migration risk analysis performance

The risk analysis performance introduced by various models are estimated and presented in Figure 2, which denotes the proposed RSFAIAM model introduces higher accuracy up to 96%.

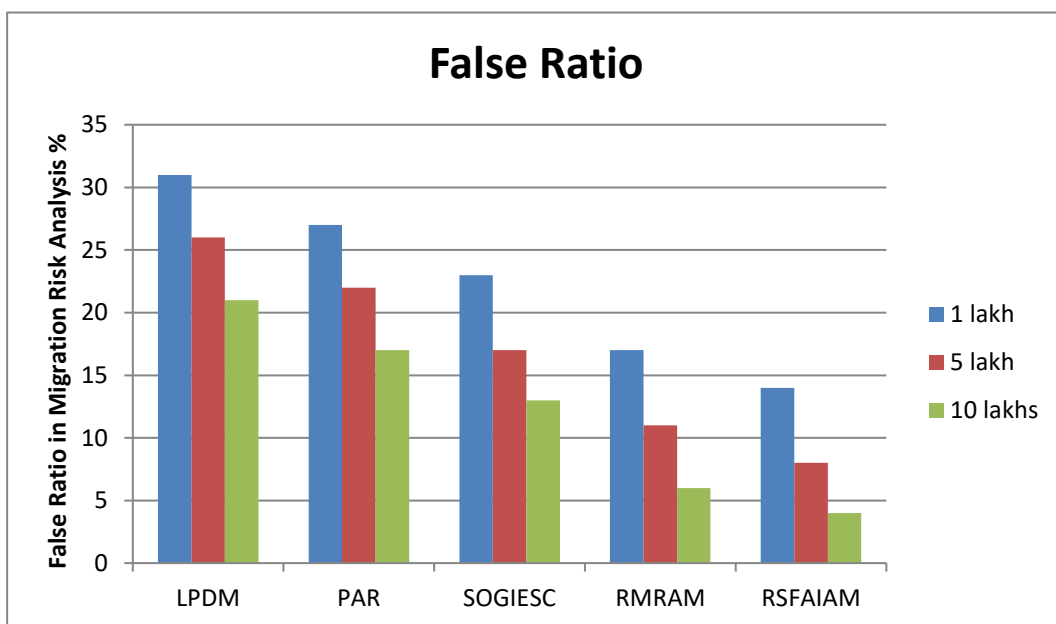


Figure 3: False Ratio in Migration Risk Analysis

The false ratio introduced by the models in migration risk analysis is measured and compared with the results of other methods in Figure 3. The proposed RSFAIAM model introduces less false ratio than other approaches.

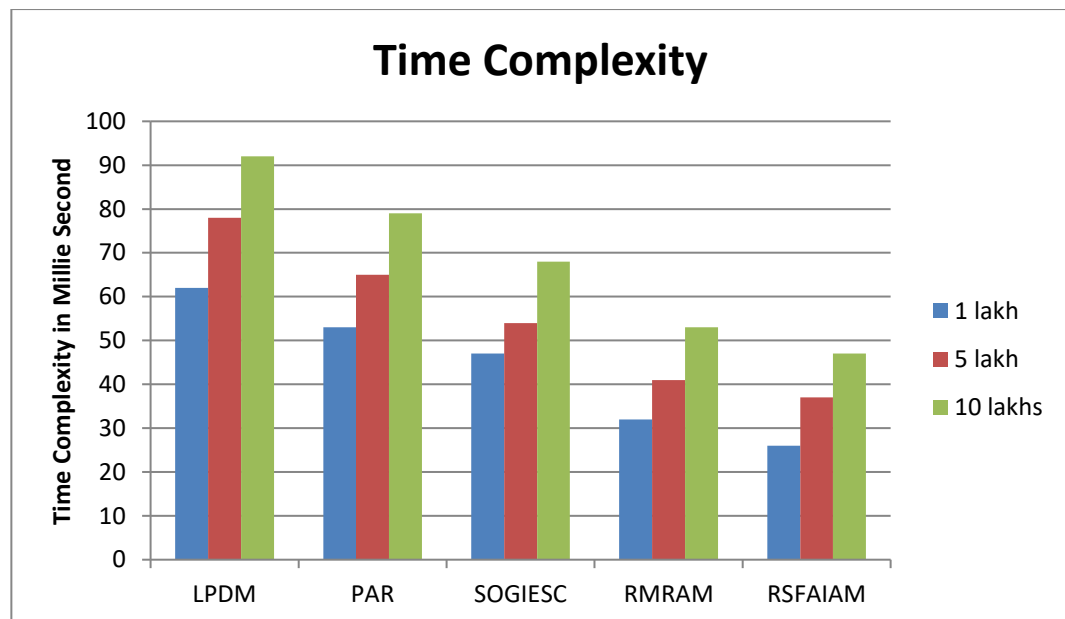


Figure 4: Analysis on Time Complexity

The value of time complexity produced by various approaches are counted and compared in Figure 4. The proposed RSFAIAM model produces less time complexity in all the cases.

Conclusion:

This article presented a efficient Religious and Social Factor Based Adaptive Immigrant Absorption Model (RSFAIAM) towards migration management. The model preprocesses the data set given and applies religious flexi analysis (RFA) and Social Flexi Analysis (SFA) for different countries. The result of analysis is used to compute the Migrant Attraction Score (MAS). Based on the value of MAS, the method identifies the country with maximum flexibility to support the migrant management and risk analysis. The proposed approach improves the performance of risk analysis up to 96%.

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