

# A literature review on transnational diaspora entrepreneurship: utilizing a combined approach of traditional and topic modeling

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## Abstract

**Purpose** – Thousands of people emigrate from their homeland and start new businesses in other countries. Researchers are increasingly interested in this phenomenon, commonly known as transnational diaspora entrepreneurship. Our paper aims to review this topic by identifying the gaps in existing research and emphasizing the need for further investigation into this growing phenomenon.

**Design/methodology/approach** – The study applies both a traditional approach and a more innovative approach using topic modeling in conducting the literature review. While the manual literature review inductively identifies important themes, through topic modeling, the prevailing topics in the research are uncovered.

**Findings** – The analysis reveals several main findings. Firstly, diaspora entrepreneurs are categorized based on identifiable differences in their entrepreneurial activities. Secondly, most literature in the area is based on case studies, and there is a need for more quantitative research into this area. Thirdly, although there is no widely agreed-upon definition of transnational diaspora entrepreneurship, some distinct characteristics set it apart from other entrepreneurial activities. Lastly, a few different approaches to transnational diaspora entrepreneurship have been identified and summarized based on the experiences, identities and locations of diaspora entrepreneurs.

**Originality/value** – This study contributes to the existing literature by employing natural language processing to analyze a corpus of paper abstracts, offering a comprehensive overview of the prevailing themes in the research on diaspora entrepreneurial activity. It also highlights the need for more quantitative research to understand the broader patterns and impacts of this phenomenon. This paper sheds light on the complexities and potential rewards of diaspora entrepreneurial activity, paving the way for further research and understanding in this field.

**Keywords** Topic modeling, Literature review, Transnational diaspora entrepreneurship

**Paper type** Research paper

## Introduction

Entrepreneurial activity has transcended past borders that one sees on a map and has created markets across the globe where diaspora populations have encountered new business



opportunities. The term transnational diaspora entrepreneurship (TDE) is used to describe a phenomenon where individuals migrate from one country to another while maintaining business connections with both their countries of origin (COO) and countries of residence (COR) (Drori *et al.*, 2009). Often, these entrepreneurs expand their business ventures into multiple markets, leveraging their transnational networks and resources to establish and operate businesses in multiple countries simultaneously (Drori *et al.*, 2009). The practice of TDE is not limited to high-skilled migrants but extends to low-skilled migrants as well, who engage in business activities that are often oriented toward supporting families and communities in their COO. These entrepreneurs may send remittances, invest in real estate or start small businesses in their home countries, using their earnings abroad to create social and economic impacts in their COO (Zhou, 2004). Practically, TDE plays a vital role in fostering economic development and innovation by acting as a bridge between countries, facilitating the flow of resources, market opportunities, knowledge and information across borders (Mombeuil *et al.*, 2021). Through engaging in transnational business activities, diaspora entrepreneurs contribute to the socioeconomic transformation of both their COO and COR.

There has been limited research within the field of diaspora entrepreneurial activity and its impact on home or host nations. Scholars describe TED as “an emergent field of study” (Drori *et al.*, 2009) and “an emerging stream of research” (Elo, 2015). Researchers have started looking into transnational immigrant entrepreneurs from an ecosystem perspective (Duan *et al.*, 2021) and have built theoretical frameworks to study this phenomenon (Moghaddam *et al.*, 2018). Existing research predominantly consists of qualitative data from case studies and literature reviews, highlighting the need for further research on this growing phenomenon. The existing literature reviews generally focus on one aspect of the phenomenon and do not present the current landscape of literature on TDE. Moreover, existing research on diaspora in business is fragmented and located in disciplinary silos (Elo, 2015), furthering the need for research on the role and influence of diaspora networks on international business and entrepreneurship.

Migration continues to occur for a variety of reasons and creates more diaspora that can be capitalized on by home nations for development initiatives across a wide spectrum of projects, including business opportunities. As a result, there is a need for a review of this literature to organize the existing literature on TDE, often using different terminologies and/or from different disciplines as well as to provide a typology for different forms of business activities that are initiated by diasporas across national borders. Knowing that TDE remains a young field and could use more scholarly attention, there is a need for research on the role and influence of diaspora networks on international business and entrepreneurship.

In this paper, we use two approaches to conduct a literature review on TDE and aim to document the existing knowledge of TDE and shed light on future research directions. Firstly, we use a traditional method of literature review, searching keywords to identify peer-reviewed journal articles and manually coding. Secondly, we apply a computer-based method to supplement our findings through a traditional literature review. Specifically, we apply natural language processing to a corpus of paper abstracts on TDE to understand the themes of the current research. The area of topic modeling is quite mature, and it has seen success in many areas (Ramage *et al.*, 2009; Jacobi *et al.*, 2016). The advantage of computer-based methods is their subjectivity, compared to doing manual coding using human labor. Combining both approaches, we found several themes that emerged from the corpus of papers. Then, we used these topics to guide the literature review. Four main findings emerged from our literature review. First, multiple similar terminologies have been used to describe the phenomenon of TDE. Second, there is a lack of quantitative data on the topic. Third, we proposed criteria to define whether a business should be considered a TDE. Lastly, we proposed a typology to categorize TDE based on the location of markets utilized. This

## Methods

### *Traditional literature search and review*

We started the search of literature on TDE from the database called “Academic Search Premier,” through the first author’s university library. The keyword used to search is “diaspora entrepreneurship.” We deliberately used “diaspora entrepreneurship” instead of “transnational diaspora entrepreneurship,” since the formal search yielded more results, to make sure we included all articles on the topic from this database. We limited our search to peer-reviewed academic journal articles in the English language published between 2003 and 2023. We wanted to make sure we captured the recent trends of research, so we decided to use the recent 20 years as one of our search criteria. 58 articles resulted from the search. All 58 articles were identified as relevant after manual screening by the researchers.

Through the above search process, we identified one key article titled: *Who is doing “Transnational diaspora entrepreneurship”? Understanding formal identity and status* (Elo et al., 2022). This is a seminal work on TDE due to its focus on the formal identity and status of individuals engaged in this type of entrepreneurship. The study delves into the realm of transnational entrepreneurship, particularly concerning immigrants and new ventures leveraging transnational advantages and capabilities. It contributes to the understanding of how heterogeneous and hybrid entrepreneurial strategies emerge and shape the evolving diaspora context, emphasizing the reproduction of social collectivity as central to diaspora entrepreneurship (Elo et al., 2022). We wanted to include all related articles of this one in our literature pool so that we have a more complete grasp of the literature on this topic. So, our next step was to use [www.connectedpapers.com](http://www.connectedpapers.com) to expand our search. We used Elo et al. (2022) as a connection to the other works focused on TDE. Our search resulted in 41 articles for our corpus. Publication dates for these articles range from 1999 to 2022, with a large gap from 1999 to 2010. Based on relevance and availability, and after removing duplicates from the previous search, 23 articles were utilized in this research.

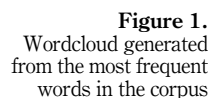
The two searches described above provided us with 81 articles in our final literature pool. To prepare for the next steps, we also extracted the abstract text from 80 papers (one paper did not contain an abstract) into a text file format.

### *Computer-based text analysis*

The primary aim of natural language processing (NLP) is to mechanize the coding process and establish a productive and unbiased method of analysis. Our initial approach involved generating a word cloud (Figure 1) to visually represent the most commonly employed words in the corpus.

It is not surprising that the words “transnational,” “diaspora” and “entrepreneurship” frequently appear in the abstracts. Another prominent word is “business” which could be because most of the abstracts discuss the businesses themselves. Countries and regions such as China and Africa also appear. Possibly due to the literature mentioning case studies related to these regions. The word “development” also frequently appears because a lot of these businesses support the economic development of their home countries.

The texts underwent additional cleaning before the performance of all other forms of analysis to reduce the dimensionality of the vocabulary and semantic variation. This cleaning included the removal of English “stopwords” (obtained from the Python NLTK library) and punctuation as well as converting all text into lower case to prevent double counting of the same word using different cases. Then, the plural words were converted to

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itself indicates that it is an individual or group displaced from their COO either by choice or necessity working across borders to create business opportunities. In previous qualitative research, identifiable behaviors linked to different groups or individuals have been observed and expressed through various closely related terms used to describe the phenomenon. “In current studies, however, the categories of transnational, international, and ethnic entrepreneurs often overlap. These different research traditions have only recently begun to communicate with one another, and the interdisciplinary field of transnational migrant entrepreneurship is starting to become more unified” (Harima and Baron, 2020).

Elo (2015) has identified diaspora entrepreneurs as having a designation that is more suitable for the concept of more “permanent entrepreneurial activities” (p. 29). Utilizing the diaspora as a valuable resource for many nations to foster social and economic development through a variety of contributions home has become extremely important for some nations. Brinkerhoff (2016) identifies diaspora entrepreneurs as a group often working toward economic, social and political reform in their COO. Traditionally, these individuals have migrated from less developed nations with emerging markets to more established nations with developed markets for the increased opportunity these markets provide. When the reverse occurs and individuals migrate to emerging market nations, their entrepreneurial activity receives recognition as necessity-driven rather than opportunity-driven, as in the case of Elo’s research in Uzbekistan (2016).

Many researchers have defined transnational entrepreneurship as “entrepreneurial activities that are carried out in a cross-national context, and initiated by actors who are embedded in at least two different social and economic areas” (Drori *et al.*, 2009, p. 1001). Transnational entrepreneurship is deeply rooted within an individual maintaining formal and informal connections within at least two separate markets, their COO and COR. “These connections within two separate nations allow for enhanced social capital, overseas contacts with access to new markets with investment finance or human capital through shared culture” (Bagwell, p. 107). Through existing literature, there have been four assumptions identified to explain transnational entrepreneurship, which are: “(1) frequent travels between home and host countries, (2) simultaneous entrepreneurial engagement in two countries, (3) deep dual embeddedness in home and host institutional environments and (4) highly educated migrants” (Harima and Baron, 2020, p. 12). Still, some other research identifies a group deemed transnational migrant entrepreneurs who operate in their home and host country but are recent migrants to the host nation (Brzozowski *et al.*, 2017).

Other terms used to differentiate the characteristics of these groups focus on the ethnicity or minority characteristics of the entrepreneurs to highlight minimal differences in the individuals. Immigrant entrepreneurship occurs when first-generation immigrants have started a business within a COR while referring to the identification of the individual through immigrant, minority or ethnic status (Brzozowski *et al.*, 2017; Carbonell *et al.*, 2014). Cruz *et al.* (2020) explain that due to the economic and social relevance of the phenomenon, development and connections occur for people, cultural groups and markets (pp. 248–9). A similar concept is migrant entrepreneurs. Ethnic entrepreneurship includes second generations or denotes larger subgroups within a society, often living in enclaves within communities (Brzozowski *et al.*, 2017).

Return migrant entrepreneurs describe the population who has lived abroad but returned to their home country for business opportunities Bai *et al.* (2018). International entrepreneurship has also been used within existing research on the topic, with a variety of reasons used to explain entrepreneurial activity. As Nkongolo-Bakenda and Chrysostome (2013, p. 1) suggest, “diaspora international entrepreneurship depends not only on their level of altruistic motivation, the need for social recognition and entrepreneurial opportunities but also on the friendliness and receptivity of the home country, as well as integration of and support to immigrants.” Establishing oneself within two separate and often vastly different

marketplaces requires strong social networks both in one's home country and within the market globally (Chen and Tan, 2009). The following table (Table 1) lists the terminologies commonly used.

*Finding #2: new research area*

Qualitative data through case studies and literature reviews dominate existing research on diaspora entrepreneurial activity. Brzozowski *et al.* (2017, p. 106), utilizing past research from Portes *et al.* (2002) state "relatively rare quantitative research on transnational entrepreneurship has indicated that the share of immigrants involved in transnational entrepreneurship might be substantial, as it ranges from 37.5 to 78.5% of immigrant entrepreneurs – depending on the location and the ethnic group surveyed."

Diaspora entrepreneurship thrives amid global migration, emerging markets and the desire of immigrants to bridge their home and host countries. Despite the growing trend of migration and entrepreneurial pursuits among diaspora communities, there is a notable absence of comprehensive quantitative research in this area. Existing research has relied heavily on case studies featuring entrepreneurs themselves, highlighting the complexities of working across national borders and different markets. Our research suggests that there is no fixed archetype of transnational diaspora entrepreneurs; rather, they have something in common, namely the need to support themselves and their families, and they tend to capitalize on familiar experiences in their home countries and connections within the diaspora community. Individuals usually migrate to developed countries with more developed markets, but some entrepreneurs operate between developed countries or venture into less developed countries in emerging markets, driven by opportunity.

These case studies provide insight into the motivation that drives an individual to engage in TDE. Pruthi *et al.* (2018) argue that a blend of economic and emotional factors plays a role in influencing migrants' entrepreneurial endeavors. They specifically focus on the Indian diaspora residing in the US, who are attracted to the home market for reasons that include

Terminology for identification	Characteristics
Transnational entrepreneur	(1) Migrated from one country to another, (2) Maintains and mobilizes social networks and resources in a cross-national space and (3) Conducts business in this cross-national context (Brzozowski <i>et al.</i> , 2017; Drori <i>et al.</i> , 2009)
Diaspora entrepreneur	Individuals who establish businesses and have access to diaspora networks. Usually associated with generations beyond first and second migrants (Brzozowski <i>et al.</i> , 2017; Elo <i>et al.</i> , 2019; Kurt <i>et al.</i> , 2020)
Transnational diaspora entrepreneur	Migrants and their descendants conduct entrepreneurial activities spanning both their country of origin and country of residence (Riddle <i>et al.</i> , 2010)
Immigrant entrepreneur	Foreign-born who establish themselves in their new host market and plan to remain permanently (Brzozowski <i>et al.</i> , 2017)
Migrant entrepreneur	A foreign-born entrepreneur who moves to another country for at least 12 months and starts a business (United Nations, 1998, as cited in Sinkovics and Reuber, 2021)
Return migrant entrepreneur	A migrant who has lived abroad but returns to their home country for business opportunities (Bai <i>et al.</i> , 2018)
Ethnic entrepreneur	A broader concept of diaspora entrepreneurs since it includes second generations or denotes larger subgroups within a society often living in enclaves within communities (Brzozowski <i>et al.</i> , 2017)
International entrepreneur	Entrepreneurs who are involved in more than one marketplace (Nkongolo-Bakenda and Chrysostome, 2013)

Source(s): Table by authors

**Table 1.**  
A list of definitions  
related to TDE



perceived disparities, cost advantages, abundance of talent and strategic use of time zone differences between the home and host countries (Pruthi *et al.*, 2018). Ethnic ties among these immigrant entrepreneurs allow for the recognition and exploitation of opportunities based on common nationality or migration experience (Aldrich and Waldinger, 1990). Connecting home and host countries frequently enables transnational diaspora entrepreneurs to connect two nations based on common bonds found in both markets.

Case studies within existing research have provided an overview of the field and contain numerous home and host countries where transnational diaspora entrepreneurs operate. These individuals receive requests from many nations to contribute back through technological expertise, economic support and social capital to break down borders and enhance opportunities for developing nations. Through a multitude of formal and informal networks, these individuals start new business ventures, continue with family businesses or create transnational businesses utilizing resources and partnerships spanning many nations. Whether it be Vietnamese immigrants working within the service industry in the UK or a developed market utilizing family connections across the globe or a variety of nationalities within Uzbekistan utilizing a variety of connections to establish themselves within an emerging market, the stories are similar (Bagwell, 2017; Elo, 2016). Reliance on both formal and informal networks is a resounding theme found in qualitative research.

Literature reviews provide insight into transnationalism within the global business market and connect articles within the same research ideologies. Elo (2014) suggests that diaspora networks are invisible actors within international business, carving a path for transnational entrepreneurship. Literature reviews also summarize available research on the topic and provide suggestions for future research into the growing field that could produce useful data on an economic subject affecting the entire globe. Sandoz *et al.* (2022, p. 137) examined 155 articles published in four languages since 2009 and identified five topics for further research: (1) the business advantages of transnational migrant entrepreneurship, (2) the determinants of becoming a transnational migrant entrepreneur, (3) the transnational networks of migrants, (4) the economic impacts of transnational migrant entrepreneurship on home and host countries and (5) whether local environments enable or deter entrepreneurial success. Sinkovics and Rueber's (2021) research identified 373 articles from 1900 to 2019 focused on migrant entrepreneurship after examining 123 different journals spanning eight disciplines: anthropology, area studies, economics, entrepreneurship, ethnic studies, demography, general management and strategy and international business.

Existing research consisting of literature reviews and case studies provides insight into the research examining diaspora or migrants working within entrepreneurial activity across multiple borders but also shows the need for exploration into quantitative research. The World Bank indicates that remittances from diaspora populations across the globe will amount to 630 bn dollars in 2022 (World Bank, 2023). Remittances home will encourage advancement on a multitude of levels for developmental projects and social services, fostering entrepreneurial activity across a variety of sectors. Categorizing these groups through differences in paths to migration, motivations and location of business ventures will provide insight into this growing phenomenon and show the need for expanded research.

#### *Finding #3: characteristics/criteria of the business being TDE*

Diaspora entrepreneurial endeavors often create opportunities in both a migrant's COO and COR. Mixed embeddedness has been a term utilized to describe this phenomenon where both social interactions and business ventures create an environment where entrepreneurs connect to two places. Networks, both formal and informal, create these opportunities both in home and host countries and are often based on familiarity with the market. Mayer *et al.* (2015) found that within COR, these co-ethnic networks were required to create opportunity,

while Pruthi *et al.* (2018) found that both personal and professional ethnic ties along with prior experience were necessary for home country market endeavors. These formal and informal networks of comparable individuals produced opportunities within the diaspora COO and COR. Existing research indicates that many individuals have business ventures within COO and COR. Lundberg and Rehnfors (2018) researched seven individuals, all originally from Nordic countries now operating in Europe, and all had interactions with multiple markets, including COO and COR, with many assisting COO firms from their COR.

*Mixed embeddedness.* Mixed embeddedness details the amalgamation of immigrant entrepreneurs who maintain a presence not only in the social networks of immigrants and COOs but also in the political and socioeconomic environments within their COR (Kloosterman and Rath, 2002). Push and pull factors also influence diaspora entrepreneurial activity, with the push factor occurring in the home country due to negative factors influencing the market and the pull factors of the host country luring individuals through opportunity contained within the new market (Sinkovics and Reuber, 2021).

*Motivations.* Carbonell *et al.* (2014, p. 416) “point to poverty, unemployment, workplace discrimination, language barriers, and low salaries as the push factors and drivers for entrepreneurship and claim livelihood seeking is the main motivation. Interestingly, these push factors for immigrant, ethnic, and diaspora entrepreneurs are similar to the push factors that stimulated migration in the first place.”

*Market orientation.* COR interactions can vary depending on the individual and connections with his or her home nation and market orientation or necessity. Research has shown that prior market familiarity has benefited groups such as the Indian technology sector diaspora living in Silicon Valley, California, but the loss of connectivity within a COO market due to frequent travel or time spent within a COR can hinder business opportunities, especially for a returnee entrepreneur attempting to reestablish market familiarity within his or her home nation (Pruthi, S. *et al.*, 2018; Mayer *et al.*, 2015). Circular migration where transnational diaspora entrepreneurs regularly visit or connect with their COO to maintain market familiarity and presence could alleviate issues within operating within multiple markets (Riddle *et al.*, 2010).

*Connectivity/diaspora.* Business behaviors with diaspora entrepreneurial activity vary by individual, market orientation and opportunities available. Many diasporas find opportunities based on co-ethnic wants and needs within a COR. Cruz *et al.* (2020) researched Brazilian migrants in South Florida, detailing entrepreneurial activity based on familiarity, trust and need for secondhand automobile sales, including loans within a close-knit, trusted Brazilian community. Pruthi *et al.* (2018) found transnational entrepreneurship entry was contingent on ethnic ties both professional and personal accompanied by prior experience within the home country market of India and the technology sector from 30 interviews of Indian TE living abroad.

*Transnational approach.* Sandoz *et al.* (2022) found that younger TDEs tended to travel more to the COO, and those who traveled less relied on a trusted partner. Mayer *et al.*’s (2015) case study detailed a returnee entrepreneur to Ghana who split his time between his host country, Germany, for family purposes and his home country to run a bakery his mother had started. With his time away, his business was reliant on industry, personal background within the home nation and trusted human capital.

Within the many distinct aspects of diaspora entrepreneurial activity, there are unique and similar business behaviors, all influenced by a variety of actors.

#### *Finding #4: typologies/models*

In existing research, which mainly includes literature reviews and qualitative case studies, subtle differences are observed in how entrepreneurs operating across global borders are identified. These individuals often conduct business across various markets but tend to focus



on specific home and/or host markets. Many diaspora groups aim to reconnect with their home country through various business ventures, often leading to the recognition of opportunities in host countries based on established markets. "Therefore, diasporans are connected to multiple networks: COO networks, COR networks, and other diaspora networks. The multiplicity of diaspora network dimensions extends beyond dyadic transnationalism" (Elo, 2015, p. 22).

Transnational Diaspora Entrepreneurs have market interests in both their COO and COR, often bridging the divide between the two nations. Contingent on the type of business, market orientation in both home and host countries, and established networks, these individuals link individual markets across borders and typically contribute back to their COO through a variety of means. Transnational social capital was key for businesses operating in multiple countries with macro, meso and micro levels of interaction depending on connectivity, size, regulatory authority, the potential for growth and transnational and local capital (Bagwell, 2017).

Some individuals have migrated to a COR and established themselves within niche markets, incorporating products or services from their COO within their business plan and relying on familiarity from their fellow migrant communities, furthering the comfort level of fellow immigrants (e.g. Chen, 2021). Others have taken advantage of opportunities found within their COO by expanding back into their home nations through gained experience or knowledge from other markets (Pauli and Osowska, 2019). This phenomenon typically occurs in a developed market while expanding back to an emerging one. This trend usually requires strong formal and informal networks for the diaspora, relying on established relationships and marketplace knowledge to succeed in these emerging, less developed markets. Riddle *et al.* (2010) explain difficulties in navigating institutional and business environments for TDEs, especially when dealing with a COO emerging market while operating from a developed COR. However, as the world's borders become transparent through technological advancement, these difficulties occur less frequently. Modern technology and connectivity are creating environments that require less movement and travel between CORs and COOs, with future research leaning on this connectivity and expanding to developing nations (Harima and Baron, 2020).

Models identified from existing research are based on market orientation and the capacity or obligation to operate within either the host country market, the home country market, both markets, and occasionally multiple markets.

- (1) Entrepreneurial activity across many markets, including COO and COR.

Bagwell (2017) found first-generation Vietnamese in the UK who have set up travel agencies back in their COO Vietnam with family assistance and expanded their business ventures across three nations (UK, USA and Vietnam), including necessary manufacturing supplies to support operations within financial constraints.

- (2) Establishing a business in the COR post migration creating development opportunities within a COO.

Brzozowski *et al.* (2017) found that of 480 respondents interviewed in their research, 158, or 33%, maintained business ties with their COO. "The possibility of holding double citizenship visibly affects the stability of transnational entrepreneurship" (Brzozowski *et al.*, 2017, p. 121).

- (3) Found entrepreneurial opportunities in COO.

Bagwell (2017) identifies Vietnam as a growing world economy and middle-class population, therefore creating entrepreneurial diaspora groups capitalizing on this transformation, setting up nail salons and sushi restaurants to cater to this growing economic class in their COO. Typically, a migrant's willingness to participate and contribute back to their COO depends on their subjective feelings towards their home country and their migration experience (Barnard and Pendock, 2013).

## (4) Returnee migrant entrepreneurship.

Strong sentimental feelings, national pride, economic opportunity, and learned skills from COR all impact a return migrant's level of success experienced. "The network usage of diaspora and returnee entrepreneurs varies to a large extent depending on the industry, personal background, and human capital" (Mayer *et al.*, 2015, p. 1).

*Finding#5: topic clustering*

In this section, we demonstrate how topic modeling was used to extract useful patterns from this corpus of research papers. Topic modeling is a widely used approach in natural language processing that seeks to automatically discover latent thematic structures within a set of documents. This technique enables an exploratory method for comprehending the various themes present in the literature. In our case, we used the Python GenSim library for topic modeling. In particular, we used latent Dirichlet allocation (LDA) from Gensim as it is widely used and popular, as LDA is a proven method for computationally modeling the semantic space of a corpus (Blei *et al.*, 2003). The LDA model first establishes clusters of words that frequently co-occur in the corpus (the topics) and then maps the presence of these clusters in individual documents across the corpus. For a complete introduction to LDA for topic modeling, please refer to Blei *et al.* (2003). The following Figure 2 shows the visualization of an example of topic modeling.

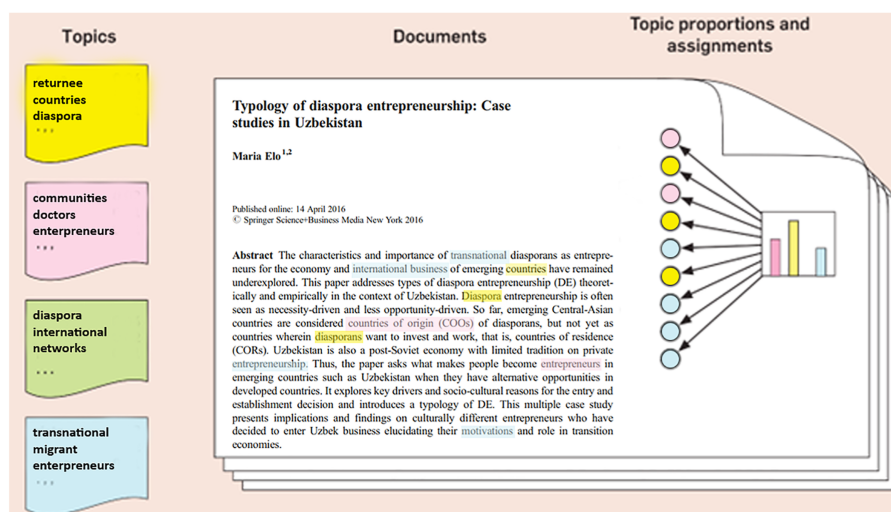
For example, when the model examined the selected literature abstracts from the TDE area, it found that the following words frequently occur together in many abstracts:

Chinese, migrant, network, state, development, migration, social, new, economic and ethnic.

Another such cluster of words is:

State, network, migrant, economic, ethnic, country, development, new, social and study.

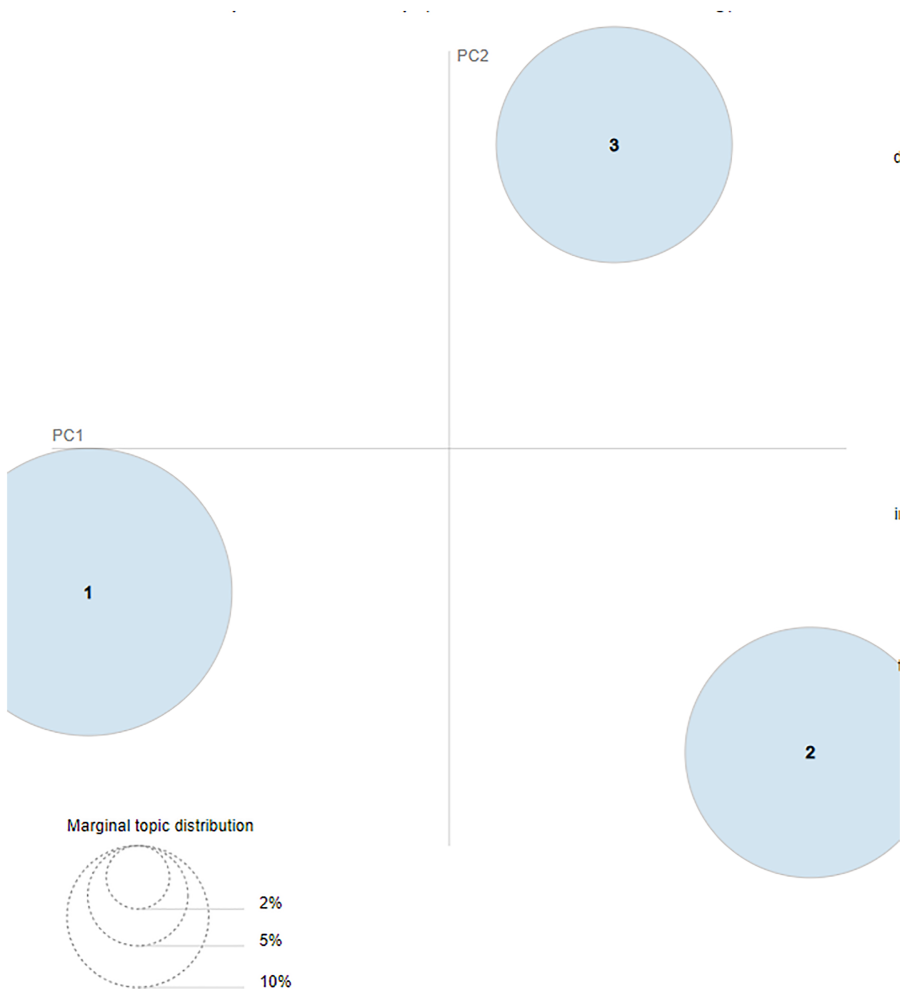
Based on these findings, we can determine that these two clusters pertain to different aspects of TDE. It is important to note that the topics are initially generated as numbers by the model, and it is the human observer who assigns meaning to them. Additionally, human attention is



**Figure 2.**  
Application of LDA to  
generate topic models  
from abstracts

Source(s): Figure by authors

required when determining the input parameters for the LDA model. The analyst must decide the number of topics the model will generate, which we did empirically to ensure a suitable inter-topic distance in the inter-topic distribution map (Figure 3). The analyst also selects the alpha parameter of the LDA model. In LDA, a single word can be associated with multiple topics. The alpha parameter represents the expected distribution of topics across documents and determines whether the majority of topics are expected to be represented in most texts or if each topic is expected to appear in only a few texts. There is an option to automatically calibrate alpha or manually set the value. Since we have a small dataset and for simplicity of analysis, we manually set the alpha value to one. This also represents our *a priori* belief that the majority of topics are represented in the majority of abstracts. Setting alpha to one allows for flexibility without imposing too strong a bias toward either topic dominance (alpha <1) or diversity of topics (alpha >1).



**Figure 3.**  
Inter-topic distance  
map for the TDE  
corpus

Source(s): Figure by authors

We use a Python library called pyLDAvis (Sievert and Shirley, 2014) to plot the topics as circles in the two-dimensional space. The centers of the circles are determined by computing the distance between topics and then by using multidimensional scaling to project the intertopic distances onto two dimensions. The scale of the circles represents the prevalence of the topic in the corpus, and the topics are numbered in decreasing order of prevalence.

Another result of pyLDAvis is the terms for each topic and their ordering in terms of relevance. The relevance metric here is a tunable parameter. Sievert and Shirley (2014) reported that 0.6 was the optimal value for relevance in terms of the interpretability of the results. So we chose the same setting.

From the intertopic distance map (Figure 3), we can see that the topic model identifies distinct topics in this space. Particularly, it identifies the words “migrant,” “networks” as common factors of the three topics (Table 2). The three topics also all mention the words “state” and “development” (Table 2). This indicates that the literature corpus connects state policy and development with these organizations. There also exist major differences between the topics. For example, topic 1 relates to the Chinese context, while topic 3 relates more to an African context (Table 2).

Discussion

Through the continued increase in migration and found opportunities within entrepreneurial activity, the markets of the world continue to see growth in diaspora entrepreneurship involvement. The growing importance economically across the globe of this collective group continues to increase as individuals migrate, and the creation or discovery of new opportunities. Home and host countries understand the value created within markets centered on diaspora groups fostering new business ventures. This growth stems from a multitude of motivations created by the individual’s creativity, desires, location within the home or host nation and correlating market receptivity. Diaspora contributions across the globe continue to increase as the needs of many migrant’s home nations grow. Remittances on an annual basis continue to rise to unprecedented heights as both social and economic needs occur through diaspora populations and their entrepreneurial activity crossing multiple borders and navigating distinct markets.

From the first two findings, we can see that the current literature on TDE has two problems. First, multiple terminologies have been used sometimes interchangeably to describe similar phenomena and/or individual entrepreneurs’ identities. TDE research is an emerging field with a variety of terms and definitions but overall similarities. Second, a lot of the current research is qualitative case studies and literature reviews, showing the urgent

Topic 1	Topic 2	Topic 3
Chinese	State	Network
Migrant	Network	Migrant
Network	Migrant	African
State	Economic	State
Development	Ethnic	Development
Migration	Country	Social
Social	Development	Economic
New	New	Migration
Economic	Social	Immigrant
Ethnic	Study	New

Source(s): Table by authors

Table 2.  
Top ten terms for the  
three topics identified  
by LDA

need for more comprehensive research, especially quantitative research, in this line of inquiry. Knowing these two problems within the existing literature, finding # 3 and finding #4 are our efforts in organizing the characteristics and typologies of TDE. The goal of these two findings is to help future researchers understand the complex concept of TDE by knowing how to judge whether a business should be considered TDE and what types of TDE have been documented in the literature. The various identified TDE models highlight the different paths taken by entrepreneurs operating across borders.

Diaspora entrepreneurs bridge the gap between home and host countries, utilizing ethnic bonds and mixed embeddedness to navigate different markets. Motivations for TDE include both economic and emotional factors, with market orientation playing an important role. Overall, TDEs present opportunities for economic growth and development, but further research is needed to fully understand their complexity and implications.

Future research on TDE should focus on several key areas based on the findings of this paper and the existing literature. More work is needed to compare different TDEs across regions, industries and types to provide a more comprehensive understanding of the factors that contribute to their success or failure. This would help to identify best practices and common challenges. Meanwhile, encouraging interdisciplinary research that brings together insights from economics, sociology, international business and migration studies would help to develop a more holistic understanding of TDE and its implications for both home and host countries. These recommendations would not only contribute to the academic understanding of TDE but also provide practical guidance for policymakers seeking to leverage the potential of diaspora entrepreneurs.

Our research has its limitations. First, this research focused on a limited number of sources to identify the main themes of entrepreneurial activity conducted by the diaspora across many markets. There is existing research containing many more articles in more expansive literature reviews to investigate closely related topics. In this study, we focus exclusively on TDE and use only peer-reviewed articles in the English language that are accessible to the researchers. As a result, the findings may not be as comprehensive as they can be. Second, we conducted a hybrid literature review using topic modeling and human intervention. We believe that topic modeling is an invaluable tool for analyzing a large corpus of literature and an excellent initial exploration tool. However, topic modeling faces several challenges that arise from the complexity and variability of natural language, such as ambiguity of words and a lack of predefined categories.

In conclusion, this literature review research has contributed to the field in the following ways: First, by highlighting the terminological ambiguity in the TDE literature, this research calls attention to the need for a more standardized and clear set of definitions, which could serve as a foundation for future studies. Second, the study's critique of the over-reliance on single case studies and literature reviews paves the way for more comprehensive and comparative research, which could lead to a deeper understanding of TDE. Third, proposing the establishment of clear criteria for identifying TDEs is a significant contribution that could guide future research and policymaking. Lastly, by acknowledging the different typologies within TDE, this research contributes to a more differentiated understanding of the field, which could lead to more tailored support mechanisms for various types of diaspora entrepreneurs.

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