

ECONOMICS

Sociology

Paudel, U. R., & Devkota, N. (2018). Socio-economic influences on small business performance in Nepal–India open border: Evidence from cross-sectional analysis. *Economics and Sociology*, 11(4), 11-30. doi:10.14254/2071-789X.2018/11-4/1

SOCIO-ECONOMIC INFLUENCES ON SMALL BUSINESS PERFORMANCE IN NEPAL–INDIA OPEN BORDER: EVIDENCE FROM CROSS-SECTIONAL ANALYSIS

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Received: June, 2018
1st Revision: August, 2018
Accepted: October, 2018

DOI: 10.14254/2071-
789X.2018/11-4/1

ABSTRACT. Small business performance in open border is uncertain. Nevertheless, understanding it helps to explore socio-economic factors affecting national and regional cross-border business activities. This study analyzes small business activities exploiting Psychic Distance Approach theory and econometric analysis with Logit model in 372 respondents involved in small business from Sunauli, Nepal-India border. The results indicate that the probability of influence of border side small business activities is higher with open border access, blockade and agitation in border area, communication access and homogeneity in customs, costumes and family management. Further, factors such as year(s) of business operation, family and business residing the other side of the border, annual income from the business, tax-evasion goods and use of agents to import goods substantially affect small business performance in open border region. Therefore, open border requires increase in cooperation, facilitation for cross border purchase, enhancement of appropriate market information and communication, proper regulation and monitoring at border point in strengthening and enhancing healthy cross-border small scale business performance.

JEL Classification: C31,
O53, P33, R23, Z13

Keywords: Open-border activities, Small business performance, Socio-economic tie-up, Nepal-India border.

1. Introduction

Small businesses are common in border areas of nations and result more in open-border sharing situations (Paudel, Devkota & Bhandari, 2018). The cross-flow of people and business are proliferated in open-border boosting local market in both sides (Walther, 2014). There are several evidences of such growth of small business activities in America border (Scott, 1999; Covarrubias, 2017), borders of Euro-zone (Schack, 1999; Houtum, 2000; Stojkov & Nikolov, 2008; Kramer, 2011; Van der Velde & van Naerssen, 2011; Pangalos, Salmatzidis & Pagkalos, 2014; Setnikar, Seljak & Petkovšek, 2014; Kurowska-Pysz, 2016; Decoville & Durand, 2018), African nations (Minde & Nakhumwa, 1998; Macamo, 1999; Lesser & Moisé-Leeman, 2009; Ogalo, 2010; Afrika & Ajumbo, 2012; Ayadi, Benjamin,

Bensassi & Raballand, 2013; Kuepie, Tenikue & Walther, 2016; Tchouawou, Karugia, Mulei & Nyota, 2016; Bensassi, Jarreau & Mitaritonna, 2016) and Asian border sharing nations (Behera, 2011; Kavitha, 2016; Azmi, Hamid, Ahmad & Ramli, 2017) including Nepal and India (Pant, 1962; Baral, 1992; Subedi, 1994; Shrestha, 2003; Sharma, 2013; Paudyal, 2014; Adhikari, 2015; Paudel et al., 2018).

These effects have nexus to socio-cultural sharing between people residing in cross border region (Velde & van Naerssen, 2011; Covarrubias, 2017), demand of the commodities in the local market (Walther, 2014; Azmi et al., 2017), open border co-operation (Anderson & Wever, 2003; Afrika & Ajumbo, 2012), market information and communication (Andersen & Foss, 2005; Chelariu & Osmonbekov, 2014), family and relations (Boellis, Mariotti, Minichilli & Piscitello, 2016; Decoville, 2018) and cross-border small scale trading (Bensassi et al., 2017). Most importantly, small business performance activities in border region share sentimental attachment in the people dwelling both sides of the open border regions.

Nepal and India share unique relationship of friendship and cooperation characterized by open border and deep rooted people-to-people contact of kinship and culture from the distant past (Pant, 1962; Baral, 1992; Kanshakar, 2001; Jha, 2013; Paudyal, 2014; Paudel et al., 2018). In the formal manner, the 1950s border Treaty between Nepal and India also allowed cross-border movements which set up the base for business activities in border area and it has been further expanded after the globalization and liberalization policies adopted by the government of Nepal in 1990s (Kanshakar, 2001). At present, border side small business has become crucial part of Nepal-India en route trade. As a result, market area, population density and business activities in border sides have been increasing and further stimulated. There is psychological coherence among Nepali and Indian people in terms of lifestyle, business operation, way of thinking, motivation, dream and happiness factors as both the nations share long term history, culture, treaties, policies and political movements (Jha, 2013). These factors have established similar business in both sides of the border. Garments, raw materials, manufacturing goods, medicine and daily commodities are purchased in the border area (Paudel et al., 2018). Small businesses in the border area are strengthened due to exchange of knowledge, skills and employment boosting the constantly increasing cross-flow in the border. However, though two-way flow is increasing, it has also increased the challenges of controlling anti-social and illegal activities in open border region (Kanshakar, 2001; Jha, 2013). Occasionally, such issues have emerged in both the areas. Tax-invasion goods are one of the major challenges dominating the border area local market (Fuest & Riedel, 2010). From Nepal-India open border region such tax-invasion goods are transported en route to major cities and capital of the nation which has adversely affected national revenue.

Limited studies – Kansakar (2001), Jha (2013), Paudel et al. (2018) have been covered in the Nepal-India border side people and relationship. Kansakar (2001) has studied problems, prospects and challenges of Nepal-India open border. Jha (2013) has highlighted the political nature of border issues of Nepal between India and China and Paudel et al. (2018) studied the socio-cultural and economic factors in Nepal India cross border purchase from the consumer perspectives. However, few studies indirectly linkup the issues of open border in their study. Pant (1962) highlights the trends of Nepal India trade relation and highlights the advantages of border side market to both the nations and the traders. Baral (1992) studied the necessity of continuity and change between Nepal-India relations. Subedi (1994) highlights the 1950 treaty and discusses more about the present India-Nepal security relations and possible new perspectives in border security management. Shrestha (2003) studied the problems and prospects of Nepal-India Bilateral trade relations. Behera (2011) has studied impact on security and other issues of migration from Bangladesh and Nepal to India. Kumar (2013) highlights necessity of mutual needs of the people across the open border between Nepal and

India. Sharma and Thapa (2013) show migration issues and highlight the migration as granted between Nepal and India. Poudyal (2014) studied historical and cultural perspective in border dispute between Nepal and India. Kavitha (2016) highlights the problems and prospects of cross-border between Nepal-India relations under the changing paradigm. Adhikari (2015) argued that Nepal inspired the growth of art, architecture and culture on both sides of the border. Both side ministerial documents also highlighted the importance of Nepal India border.

All the given studies focus on some political and social context and less discuss in cross border small business performance. No direct studies have observed so far in the border side small scale business issues which could directly influence the life of the local people on border area and their daily socio-economic activities. Hence, small business performance in cross-border purchase lacks comprehensive research. The present study, thus, aims to undertake a comprehensive analysis of the small business performance in Sunauli, Nepal-India border.

In the remaining parts, the second section follows with the materials and method used, third supports the results and discussion and the last one provides concluding remarks.

2. Materials and methods

2.1. Cross-border theoretical debate

Small business performance in the open border area is affected by large number of variables, basically socio-economic factors common in adjoining nations. There are a number of theories in the border issues. Houtum (2000) suggests three categories of theoretical approaches regarding border interaction: the flow approach, the cross-border cooperation approach and the people approach. Similarly, border phenomena can also be categorized on the basis of Transaction Cost Approach associated with (Oliver Williamson, 1975, 1979, 1981), International Network Approach developed by some Swedish researchers in industrial marketing and international business in 1982, and Psychic Distance (Johanson and Vahlne, 1977, 1990) is most widely used argumentative approach. Though this research paper sources on the debate of some border theories, it mainly spotlights on Psychic Distance Approach.

According to Transaction Cost Approach, there are always the factors like enhanced cost for doing business, communication problem, different rules and cultural differences in two countries, which become problems or barriers in business creating friction. Big enterprises are not driven individually but individual or a family owns small business and they can cross borders like Vodaphone and TATA companies from India. Unlike Transaction Cost Approach, the Flow Approach focuses on the physical flow of goods, services and people across the border; the Cross-border Cooperation Approach focuses on the analysis of border region and institution that allows for interaction and economic development while the people approach is based on social-construction, identity and culture (Davis, Faberman & Haltiwanger, 2006; Anderson & Wever, 2003). The flow approach views border as an artificial barrier and restriction is taken as economic loss. When border is in periphery, decisions are made in the center of the nation and government may not be able to address the local context (scenario) (Houtum, 2000; Decoville & Durand, 2018). In the context of Nepal-India border, peripheral areas cause intense economic activities where people from the border area cross more frequently than people away from the border. Obstacles like border blockade, even for the short period of time, result in great loss of revenue (Paudel et al., 2018).

The International Network Approach keeps strong faith of doing business on the basis of network. The prospect of business lies in network. Indian and Nepali entrepreneurs can go

to Bangladesh on the basis of their network. They see the prospect of business in network. Similarly, the cross-border cooperation approach views peripheral region as frontiers for intense economic activities and emphasizes on cross border co-operation and strategies to overcome differences (Houtum, 2000; Anderson & Wever, 2003; Decoville & Durand, 2018). Scott (1999) refers cooperation as 'an opportunistic strategy for obtaining public subsidies'. Şlusarciuc (2015) believes that the cross border cooperation can boost the economic development between the neighboring countries. Additionally, Kolk & Margineantu (2009) believe homogenization and culture affect marketing decisions and Tkachenko & Pustova (2014) focus on coherent activities of government public and business as essential to address socio economic and environmental problems. Kramer (2011) points out three main challenges about the cooperation in cross border areas like pre-conceptions, socio-economic differences and distance to the center from periphery. The cross border cooperation between Nepal and India involves deep rooted multiple identities. The institutionalized agencies can work in territorial strategies, policy documents and cooperation between center and periphery. There is increasing importance of cross border cooperation (Kuzmin & Kravchenko, 2014).

Most notably, the Psychic Distance Approach theory believes that experimental knowledge reduces psychic distance. This theory mostly focuses in the area of linguistic differences and translation difficulty, cultural factors, economic situation, and political and legal system. According to psychic distance approach, businesses directly relate to psychic distance and companies tend to initially sell to the country and people they understand and gradually explore the new market. The knowledge is experimental in nature. Firms develop their activities around in an incremental fashion as the knowledge develops. In business, it is not the matter of kilometers but of the psychology of the people between two nations. The people in Sunauli, Nepal-India border view border not as lines in space but as socially constructed separating by national identity, culture and language. Physical and economic barriers only do not determine the existence of border, a number of socio-cultural factors play vital roles. However, sometimes racial, religious, linguistic and cultural differences also act as separators; constructing stereotype, prejudice and otherization (Houtum, 2000; Anderson & Wever, 2003; Van der Velde & Naerssen 2011; Decoville & Durand, 2018). Culture affects social rules in terms of what is appropriate and what is not, and orientation to time and activities (Reisinger, 2009). Holliday (2013) emphasizes the circumstances and culture affecting reality. Similarly, in the role of language Jackson (2014) argues that language and cultural socialization profoundly influence how people see themselves and communicate with other people having different backgrounds. Psychic distance refers to psychological distance or homogenization. According to this theory, the more the psychic distance the lesser the chance to venture business. To support this theory, Switzerland and Germany do not have much business collaboration because though they have geographical proximity, they have a greater psychic distance but China and Taiwan are far apart; however, collaborate in business due to their psychic proximity.

Thus, how cross-border relation and enterprises can be enhanced is one of the major apprehensions of landlocked countries in the world. Land border transportation is more expensive than sea transportation. However, though there are 40 landlocked countries in the world, all are not economically poor. Austria and Switzerland are landlocked but very well off. In the issue of Nepal-India border, India is a growing giant economy while Nepal is a developing nation. The nations are interdependent in socio-cultural, historical and economic aspects, which have direct relation to the business they perform in the border area. Sunauli-Nepal-India border business is very concentrated and affected by large number of variables which is basically of social, cultural, economic and political in nature (Anderson & Wever, 2003; Székely, 2013; Setnikar et al., 2014; Covarrubias, 2017).

2.2. The empirical framework

A multiple regression, as depicted in equation 1, was used to ascertain variables influencing small business performance in Sunauli, Nepal-India border. Across behavioral science disciplines, multiple linear regression (MR) is a standard statistical technique in a researcher's toolbox (Nathans, Oswald & Nimon, 2012). Most researchers use multiple regression analysis in social science study as it is very rare to have only one independent variable (predictor) to predict a social phenomenon (Jeon, 2015). Jeon (2015) further added that in past tens of years, researchers have used this multiple regression analysis as a powerful tool because it allows to model statistically the relationship between dependent variable and a set of independent variable. As Marill (2004), linear regression may be inappropriate when the outcome of interest is associated with more than one predictor variable; multiple regression models allow the investigator to account for all of these potentially important factors in one model.

$$Y = \beta_0 + \beta_1 x_{i1} + \dots + \beta_n x_{in} \quad (1)$$

Where,

Y = dependent variable

β_0 = regression constant

$\beta_1 - \beta_n$ = coefficient of x , which is the contribution of each independent variable to dependent variable

$x_1 - x_n$ = independent variables

Since all the dependent variables, in our 4 different models as per its hypothesis, are of dichotomous in nature logistic regression analysis is appropriate (Devkota and Phuyal, 2016). Therefore we perform logistic regression. Logistic analysis, often called logit analysis, is a form of regression that is used to when the dependent variable is dichotomous (SPSS, 2003). From the logit model, the estimated value of the dependent variable can be presented in the probability of an event happening which lies between 0 and 1 (Liao, 1994). When expressed in the logit form, the equation 1 can be specified as:

$$\text{Log} [P_i / (1 - P_i)] = \beta_0 + \beta_1 x_{i1} + \dots + \beta_n x_{in} \quad (2)$$

By solving P_i through above equation the predicted probability of P_i is described as:

$$P_i = 1 / [1 + e^{-y}] \quad (3)$$

Where,

e = the base of natural logarithms

$$Y = \beta_0 + \beta_1 x_{i1} + \dots + \beta_n x_{in}$$

This study tries to capture 4 different hypotheses to understand the dimension of small shop owners' perspectives regarding their business performance in border area. They are: **H01:** There is no relationship/association between open border and the given explanatory variables; **H02:** There is no relationship/association between blockade/border agitation and the given explanatory variables; **H03:** There is no relationship/association between communication access and the given explanatory variables; **H04:** There is no relationship/association between homogeneity in customs and costumes and the given explanatory variables. The study

contains seven independent variables: Income, business expenditure, family involvement, relative across border, business across border, imports of goods and tax-evasion goods presented in table 1. Based on these variables, the study analyzes economic and socio-cultural factors affecting small business. The variables were determined significant in the study to analyze the border side small business activities after the literature review with their congenial relevancy to the study.

Table 1. Variables for small shop owners' perspectives

Variables	Mean	Std. dev.	Explanation	Expected sign
Business_expenditure	9.219	8.087	Business experience (in years)	±
Family_involvement	2.145	1.429	Family member involved in this business (in Number)	±
Income	3648.44	6169.45	Average annual income from business (in USD ¹)	±
Relatives_across_border	0.411	0.493	Relatives in other side of border (Dummy, If yes = 1; 0 otherwise)	±
Business_across_border	0.153	0.361	Having business other side of the border (Dummy, If yes = 1; 0 otherwise)	±
Import_goods	0.583	0.494	Import the goods from agents (Dummy, If yes = 1; 0 otherwise)	±
Tax_evasion	0.247	0.432	Tax evasion goods (Dummy, If yes = 1; 0 otherwise)	+

2.2. Study area and data

Nepal geographically lies between 26⁰ and 31⁰ N latitudes and 80⁰ and 89⁰ E longitudes. Located in the continent of Asia, Nepal is a sovereign, independent, federal democratic and land-linked country between China in the North and East, West and South of India (Poudyal, 2014). With 1, 47,181 square kilometers total area, the country is divided into 3 main geographical regions: Himalayan, Hilly and Terai. The population in Nepal India border is dependent on agriculture. Paddy, wheat, maize, cereals and cash crops are the main farming products in the bordering region. Before 1990, Nepal used to export rice to India and other nations while the situation is topsy-turvy at the present situation (Shrestha, 2003). Nepal depends on India for goods transport facilities including marine access. There are 22 agreed transit and custom posts along the Nepal India border (Kanshakar, 2001). Among them, Sunauli - India/Nepal border is one of the important entry points.

The total population of this study bases on small business owner residing the Nepal side of the open border area. This study was performed in Sunauli - India/Nepal border². The places Belhiya and Sonauli³ lie in Nepal and India sides of border respectively. Belhiya lies in Siddharthanagar Municipality Ward No. 1 with 1066 household (CBS, 2012) where all the border side activities take place. In the area, approximately 400 small businesses perform including informal business practices⁴. It is the most crowded cross-flow route between Nepal

¹ USD 1 = NRs 100

² Sunauli is located in 70 kilometers north of Gorakpur, India and 3 kilometers south of Bhairahawa, Nepal.

³ Written "Sunauli" in Nepal side and "Sonauli" in Indian side.

⁴ Based on discussion with local government authorities and researchers' observation.

and India (Paudel et al., 2018). The study area selection is based on purposive sampling⁵. Singh (2007) argued that purposive sampling can be very useful in situations when researcher need to reach target sample quickly and sampling, for proportionality is not the main concern. As Paudel et al. (2018) conduct their first research based on perception of people towards cross border purchasing activities; this research is the continuation with the small shop-owners regarding the influence of open border to their small business activities.

The structured questionnaire with both open-ended and close-ended questions were prepared and used to obtain required information. The questionnaire were pre-tested to avoid missing any important information and flaws, and enumerators were provided with the in-house training to reduce human errors in data collection. This research tried to capture the census of the area in the month of February 2018 but some of the respondents denied answering so that the study based on 390 shop owners' interview, however, 18 of the data questionnaires were discarded for analysis as incomplete. Hence, a total of 372 shop owners' data were entered into Excel and STATA version 13 for statistical purposes. Both descriptive and inferential statistics are performed for data analysis. All necessary corrections and pre and post statistical analysis were performed, and results have been presented in table 2.

3. Results and discussions

3.1. Descriptive analysis

Among 372 total respondents, (81%) were male businessmen and only small portion (i.e. 29%) females were found performing business at Sunauli, Nepal side of the border. Among the business owners, (54%) were studied up to grade 10 and still 8% were found illiterate. (69%) of the respondents claimed their business was of small scale⁶ while rest 30% said they have medium scale business and only 5% respondents stated that their businesses lie on large scale ones. The overall average border side business experience at Sunauli is observed around 9.21 years that ranges from minimum a month to 50 years. The average number of family members involved in the business is 2.4 ranging from minimum a member for the full time to whole family members (up to 10) – evidently, most of them remain part-time.

But surprisingly, only (56%) respondents mentioned that female members are also included in this business activity and still 44% shops are managed by only male members of the family. Such discrimination is found due to socio-cultural complexities. In Terai, women are not still allowed to communicate with new and unknown visitor and other male members of their societies. Shop owners who have started their business at Sunauli start their business from USD 1 to USD 900,000 and average seed money is measured USD 3781. Most of the businesses started by the businessmen either with their own properties (i.e. 43%) or with the help of their surrounding as some businessmen use their family property (25%), bank loan (22%) and personal loan (14%) and others (0.5%). Due to cross border effects of goods and services, businessmen in the Nepal side of the border offer general store (31%), garments (18%), cosmetics (12%), hardware (8%), medicine (8%) and others (28%). As customers want to purchase many goods in Indian side of the border, businessmen of this area are less

⁵ As sample of this study can only be logically assumed to be representative of the population. Some expert opinions were gathered during the methodology development phase, to select our sample in a nonrandom manner.

⁶ This study only ask respondent about their business types and did not check their official document to verify the business types.

concentrated and offer goods which are also offered by the shopkeeper of Indian side (Paudel et al., 2018).

3.2. Socio-eco-cultural analysis

Socio-cultural analysis

The survey results that (83%) of the small businesses in the border area offer the goods of all seasons and festivals like *Dashain*, *Tihar*, *Chhath* and *Holy* to their customers. Paudel et al. (2018) in their study revealed that consumers believed 83% of shops residing border area offer goods of all seasons and festivals. The offering of goods of all times and seasons is responsible for operation and profitability of small shop business residing both sides of the border since festivals are mostly common. (Hogg, 2007) also claims that a shared sense of history, cultural and ethnic commonalities, economic interdependencies, and common borders in the case of Nepal, are all factors that India believes give it a cultural capital China can ever procure. Majority of the shops (i.e. 66%) have both male and female customers while (21%) have only male customers and rest (13%) offer goods only for the female customers. Similarly, the age group of 20 to 40 years (79%) prefers to purchase (32%) general products and other basic product (29%) from the Nepal side of the border. It is because garments and many other household goods are available in other side of the border with much cheaper price than the Nepal side of the border.

The small business owners informed that both local (59%) and non-local (41%) customers are the main sources of their business. (84%) shopkeepers mentioned that they communicate with their client in Nepali language. Besides Nepali language Hindi (46%), Maithili (12%) and English (8%) are some other common languages for business activities and daily transaction. (87%) of the respondents opined that common language has helped them to promote their business while (72%) argued that homogeneity in customs and costumes also contribute to promote their business. It is evident that India and Nepal have shared intense people-to-people relation for long time (Kassakar, 2001) due to its geographical, cultural, religious, ethnic affinities between the inhabitants of both side across the border (Kumar, 2013). In the context, socio-eco-cultural factors shape predominant role in the relation of two countries, which seem higher especially in border area. (52%) of the respondent argued that local business could be possible only with local customers while 48% are not sure about their business without non-local costumers. Nepalese customers are accustomed to purchase across border not only due to economical price of the commodities but also due to commonalities in the socio-cultural aspects more than in China as (Hogg, 2007) claims through a non-negotiable, unilateral agreement on the free movement of goods and people between the two countries, India gives Nepal Duty-free access to all agricultural and industrial exports. Finally, to attract non-local costumers, respondents opined that some of the activities like offering quality product, reasonable price, better service, good behavior, healthy and friendly relation, proper communication and attractive advertisements play positive roles.

Economic analysis

Out of the 372 small business owners in the Nepal side of the Sunauli-Nepal/India border, they are found selling in average (57.9%) local goods and (42.6%) exported goods. Therefore, a significant number of customers purchase from India. A mixed response is obtained about the profit of selling goods as (42%) responded Nepalese goods give more

profit while (28%) argued such profit is higher in Indian goods. (30%) of the shopkeepers also believed that both goods provide more profit. The percentage of overall profit from Nepalese goods is found (54%) compared to foreign goods (i.e. 46%). It indicates for the sellers at Nepal side of the border that still Nepalese goods are providing profit.

The average annual income from the border area business is found USD 3946.5 which ranges from USD 100 to USD 16000 annually depending upon the size of the shop, average turnover and the investment. Data reveal that 90% of the total respondents' living standard has increased after the establishment of their business. 60% depend on their small business for family survival. Among them, 79% mentioned that such income helped quite a lot for their family management. Out of their income, saving (41%), children education (22%), property management (19%), further investment on business (3%) and many others activities (5%) are made. About 84% businessmen argued that their businesses have helped to maintain social status. However, rest 40% whose living standard has not increased fully from their business activities argued that they have to do some other income generating activities to cover their insufficient income source in order to support their family.

Respondents argued that the business situation today is different than 30 years ago as (55%) argue that there is difference in business practice today while 45% find still similar. The variation of the business perception could be due to their stay and experience at the local level. Most of the new business owners have migrated in recent days that may not have the picture of business scenario of 30 years earlier. People who opined that there is difference in the business in the 30 years' time span elucidate the factors of change like: nature and price of goods, taste of customers, open border, preference of customers, growing publicity of business, change in rules, peoples' perception about growing technology and development of infrastructure in which (52%) of them believed in positive influence of these factors in current business.

3.3. Cross-border small business activities' analysis

Open border cooperation

Among the 372 respondents, (56%) of the respondents take open border as one of the positive factors in operating small business practice and (96%) of the respondents believe open border matters on their business, and (63%) of the respondents experience the changing scenario of border in the last few years. In the context of bordering nations like Nepal and India, cross border cooperation applies equally to the activities of local authorities at various levels, as well as to joint initiatives, e.g. non-governmental organization for business (Kurowska-Pysz, 2016). To explicate, added tax policy from the government side, frequent border restriction policy, agitation and strikes on border have negative impacts in their businesses. Available goods' qualities in the other side of the border, easy import, and easy access from their homes to the market have been playing positive roles to their business activities. Thus, cross border cooperation is becoming an increasingly important factor in establishing a stimulating business environment that includes different levels of cooperation between regions and neighboring states (Setniker et al., 2014).

To import the goods, (25%) of the small business owners depend on the agents, (75%) on businessmen, (60%) manage their own network and (26%) on wholesalers and distributors and 11% received such goods from their relatives living and/or working other side of the border. Yet, (93%) businessmen find agent service easier than any other means. Credit transaction seems important to do border-area small business as 56% respondents accepted that they have received goods in credit. Among them, less than a week (17%), for a week

(34%), fortnight (8%) and up to a month (27%) are found taking credit facilities in their small business practice. And (72%) of the small business owners are dependent on credit facility. So, cross-border activities are increasing due to various beneficial motives such as easy entrance through borders, economical price of the commodities, easy purchase-sell activities, common and understandable language, cultural similarities, family relation across the border and trust (Jha, 2013). Regarding easy access to import and export goods in the boarder, there is mixed response -53% of the total respondents argued that border access is easy for them to import goods while other 47% respondents stated that it was difficult to export and import goods. Hence, without strengthening cultural cross-border relation, it is impossible to build strong links and cooperation between neighboring nations (like Nepal and India) (Stojkov & Nikolov, 2008).

Cross border purchasing activities

Almost half of the respondents (i.e. 46%) reveal that customers prefer to purchase goods both sides of the border while 33% of them mention customers prefer Indian side of the border due to several reasons: cheaper goods, affordable price, open border, quality goods, easy access and many others. Many people from the both nations have utilized open border for service, business and attainment of facilities (Paudel et al., 2018). Comparatively customers prefer to purchase garments, general store, cosmetics and hardware items on the Indian side of the border while they prefer medicine to purchase on Nepal side of the border. 78% of the total respondents opined that low price of the goods, on the Indian side of the border, is the main reason for customers' preference.

The interval of time to import the goods among the respondents is different. 42% of the small business owners import goods in weekly basis while 30% import their goods once in a month and only 20% of them import in regular basis. (63%) of the respondents who bring their goods from border mentioned that it is easy to import the goods from the boarder. 35% of the respondents argued that frequent border disturbances take place while other 32% argued moderate disturbance of border. 47% respondents argue that such frequent boarder disturbances affect their business significantly. (10%) respondents argued frequent boarder disturbances affecting very much on their business while 19% of them mentioned it has much affected and (15%) of them said their business is moderately affected. Only 4% respondents opined that their business was not affected with border disturbances.

The border activities with China are not as intense and cultural as with India. As China requires entry and exit visa in the cross-flow of people, which has contributed significantly towards the activities of the people of two nations that allows free movements of the people and commodities across the border, which has contributed significantly towards the regional cross-border purchasing activities (Kumar, 2013; Kavitha, 2016, Paudel et al., 2018).

Optimistically, (87%) of the respondents contended that the exiting business can be possible to systematize with law, strict border policy, less custom duty on goods while import and export, security in border and market area, friendly behavior with the customers, increasing stocks, maintenance (of what), selling quality goods, systematic management can be implemented to systematize the existing business. Respondents also mentioned that there are not yet any noticeable initiatives taken by the Nepalese government to protect small-scale business in the Nepal side of the border. Further, (85%) respondents argue that local initiatives have been made by local business organizations to protect this business. But, only (48%) respondents see the positive roles of such initiative and 52% do not agree to the situation. According to the respondents the prevalent problems are tax, conflict, unhealthy competition, strikes, theft, traffic, black market, frauds, delay in delivery and restrictions in border as major ones. These challenges affect small business in the border area because

people move back and forth in the open border area for purchasing daily consumer goods and for business purposes (Paudel et al., 2018). To overcome the challenges respondents argue that there should be strong law, control in border targeted strike, tight security in the border area, government support, formulation of rules, proper relation with customers, quality product, lesser tax, tax return/ refund/waver, minimizing similar businesses in the same area, awareness, strict border regulations and depleted import and supplementary export.

Market information and communication

Communication in border area is another important influencing aspect for cross-border purchase (Schack, 1999; Setnikar et al., 2014). 95% of the total respondents claimed to have very good market information about cross-border activities. Effective level of communication makes purchase much better in border area (Houtum et al., 2000). The link between information/communication technology (ICT) and international business is relatively recent and continually growing (Chelariu & Osmonbekov, 2014).

Several medium of communication such as mouth-to-mouth (85%), mobile phone (31%) and messenger and other medium (9%) are used in small business performance in the open border area. Poudel et al. (2018) also have found that easy access to communication has helped customers to improve their purchase. Similarly, Information and Communication technologies can help to make cross-border judicial procedures more transparent, efficient and economic both in civil and criminal matters (Pangalos et al., 2014).

Out of total 372 respondents, (64%) respondents argue that communication in free boarder zone is very easy and (31%) feel it moderate. As information and communication networks have grown in size and capabilities, the business and operational efficiencies they bring have been accompanied by increased privacy risks. Mitigating these risks while at the same time ensuring the trust needed in a global economy depend on the free flow of information and strong cross-border privacy law enforcement co-operation. The need for improved enforcement co-operation – initially recognized in the 1980 Privacy Guidelines – has now become a priority within and outside the OECD (OECD, 2006).

Additionally, 66% respondents argue that the communication access is equal in both sides of the boarder which is facilitating them to do effective business activities in border region as (99%) respondents opine that such communication level has improved their business. More recently, quantitative studies started to emerge focusing on exporting SMEs or larger multinationals. For example, Moen, Koed Madsen & Aspelund (2008) found that Danish and Norwegian SMEs involved in international business use information communication technology (ICT) to learn about markets and to build long-term customer relationships. Interestingly, the study did not find a significant relationship between ICT and firm performance. Winklhofer, Houghton & Chesney (2006) focused on the SME exporters and developed a measure of website sophistication. They found that external factors such as export diversity and environmental pressure, and internal factors such as ICT knowledge and entrepreneurial orientation, are significant predictors of website sophistication. A study of Ghanaian exporters shows that competition level has a positive impact on their decision to adopt e-business, regardless of the direction of exports (Hinson and Sorensen, 2007). Among larger multinational enterprises, Andersen and Foss (2005) found that information technology helps managers to coordinate across geographies and functional boundaries, allowing them to take advantage of international market or sourcing opportunities, and achieve superior performance (Chelariu & Osmonbekov, 2014).

Families and relation

41% out of the total respondents argue that they have relatives on the other side of the border. Their status of relationship represents blood relationship (51%), friends (29%), marriage relationship (12%) and others (8%). Indian and Nepali migrate temporarily and permanently both side of the border. Migration between India and Nepal has been easy due to an open, porous border and strong family link (Behera, 2011). So, people in the border area have their close ties to the people in the other side of the border. The greater the relation, easier it is to run the business. The research survey shows that (51%) respondents mention that the relatives living in the other side of the border are directly helping them to run their business. And it is common that business activities in the border areas increase due to various reasons. Shopping in border areas has become a common activity in many parts of the world (Azmi et al., 2015). Language and cultural factors too spread business. Language and cultural socialization profoundly influence how people see themselves and communicate with other people having different backgrounds (Jackson, 2014). Similarly, (15%) businessmen have their own businesses on the other side of the border. Those respondents who do not have businesses on the other side of the border have their relatives' business. It means the greater the family involvement in the firm's governance is, the more likely the firm will prefer less risky (more cautious) entry modes in foreign countries (Boellis et al., 2016). It indicates that a big market is captured by those business owners who have in one way or the other have connection with the people living in the other side of the border.

Tax and tax-evasion in cross-border small scale trading

There has been little study of the extent of informal trade from India to Nepal in locally produced goods (Hogg, 2007). Among the small scale business owners, (69%) of them pay the tax while rest of the respondents mention they don't. It shows still 31% of the small businesses run on the border area perform informal manner. Macroeconomic researches trying to determine the level of informal trade and its determinant (Ayadi et al., 2013; Golub and Mbaye, 2009; Golub, 2012) identify the goods smuggled, gather data on their prices across borders and checked whether the price difference observed come from the tariffs, taxes or ban applied in the countries trading informally (Bensassi, 2016). There is no universally accepted definition of the informal sector to start with. But in this paper, the term "informal cross - border trade" is used to refer to imports and exports of legitimately produced goods and services (i.e., legal goods and services), which directly or indirectly escape from the regulatory framework for taxation and other procedures set by the government, and often go unrecorded or incorrectly recorded into official national statistics of the trading countries (Ogalo, 2010).

They argue that the average taxable goods in their shops are (16%), ranging from (1%) to (100%). Even wholesalers are also extensively involved in informal trading routes using different means of transportation (e.g. , trucks, vans, motorcycles and bicycles) to transfer their goods across borders (Tchouawou et al, 2016). 58% of the total respondents argued that the tax-evasion goods have been affecting their business. Among them, (90%) argued that the level of effect from such tax-evasion goods is significantly high in their business. Additionally, weak enforcement by national authorities also originates from cross border activities of firms to save or even escape from taxation (Fuest & Riedel, 2010). Related to revenue losses stemming from tax evasion activities is the smuggling of goods across borders as a way of evading not only VAT liabilities but also other forms of indirect taxes such as customs and excise duties (Fuest & Riedel, 2010). Limitations and difficulties in applying the arm's length principle imply that transfer pricing is to be particularly prone to abuse for

illegal tax evasion purposes e.g. through fake transactions, artificially under- and over-billing of cross-border sales (Fuest & Riedel, 2010).

Some respondents (i.e. 36%) argued that such tax-evasion trend is possible to control. They opined that strong law enforcement, strict border rules and regulations, proper checking at the border point while crossing any sides, effective patrolling in border side from both sides of the border; increasing public awareness can function as measures. Informal CBT can be defined as agricultural trade flows that are not captured or are wrongly recorded in national accounts statistics (Afrika and Ajumbo 2012; Gor 2012; Ogalo 2010; Titeca 2009). Reasons for this misreporting or non-recording are varied, but are mostly related to recurrent practices of goods misclassification, under-invoicing, non-declaration of country of origin, non-compliance with quality standards and use of unofficial trading routes and procedures at the border points (USAID 2012; Lesser and Moisé-Leeman 2009; Macamo 1999). This type of trade is mostly conducted by unqualified or quasi-professional traders dealing with a diverse, but small stock of merchandise (Minde and Nakhumwa 1998). However, studies have also shown that actors in informal CBT are not always individual traders or small businesses (Tchouawou et al, 2016). In most cases, the flows of ICBT goods appear to be in small quantities. Where big consignments are involved, they are usually divided into smaller quantities to avoid attention when passing across borders.

At the international level, carousel fraud takes advantage of the zero-rating of exports between multi-country trade operations which have been identified to be most vulnerable to VAT fraud as they occur across national borders and hence, affect different tax authorities. In principle, carousel fraud consists of two parts – the collection of VAT payments without remitting them to the corresponding tax authority (missing trader fraud) followed by illegitimately claiming a tax refund for the good that is exported (Fuest & Riedel, 2010). For instance, unveiling mispricing activities as well as irregularities in firms' transfer pricing practices require a well-functioning cross-border information exchange between domestic tax administrations, auditors and foreign public authorities. Tax Information Exchange Agreements (TIEA) aim at enhancing cooperation with low-tax jurisdictions including tax havens to foster exchange of information which helps to disclose illegal forms of profit shifting (Fuest & Riedel, 2010). Respondents are not sure about the increase in their sales even if tax evasion is completely stopped. They opined that with the complete tax-evasion control, their sales may increase 6% on average, ranging from (1%) to (100%), depending upon the goods they sell.

3.4. Econometric estimation

The binomial logit regression model (with cross-sectional data) was adopted to check the determinant factors for small business performance. Studies like Green (2003), Devkota, Phuyal & Shrestha (2018) argued that cross-sectional data analysis involves two problems: the heteroscedasticity in the error term and multicollinearity among explanatory variables. To overcome this, the Collin Test was performed to deal with the problem of multicollinearity. Collin Test against Breusch-Pagan Test for multicollinearity is used in this analysis since Collin Test allows direct estimation of multicollinearity after logit regression while Breusch-Pagan Test requires OLS estimation. We estimate robust logistic regression in order to prevent model from heteroscedasticity. Abid, Scheffran, Schneider & Ashfaq (2015) remark that there are different ways to measure goodness of fit for logistic model. This study performs the fittest and classification table, as shown in table 2, to measure the extent to understand the accuracy predicted by the dependent variables in the model. Higher percentage from the calculation indicates a better fit of the model (Devkota et al., 2018).

Table 2. Hypothesis testing for model significance and predictive power

Small Business Performance	X ² (Chi-square)	Degree of freedom (df)	P level ^b	-2 log likelihood	AIC ^a	BIC	Model correctness ^c (%)	Pseudo-R ²	VIF
Model 1	16.53	7	0.021	-246.48	508.96	540.31	59.41	0.032	1.08
Model 2	28.23	7	0.000	-242.83	501.65	533.00	59.68	0.055	1.09
Model 3	23.00	7	0.001	-225.97	467.93	499.29	66.94	0.048	1.09
Model 4	12.22	7	0.094	-214.32	444.63	475.99	72.04	0.028	1.08

^a AIC (Akaike Information Criterion) measures the relative quality of the statistical model.

^b P level shows the statistical significance to reject the null hypothesis (H0).

^c based on the classification table.

The post estimation found that the overall percentage correctness for all models was more than 60%, which confirmed a better fit of all models used in our study. Similarly, the χ^2 value was significant, and the value of the Pseudo-R² ranged from 0.02 to 0.06. The VIF values are less than 1.09 in all models. The test results show that all models selected for the study are apt and can accurately estimate the socio-economic factors associated in small business performance at Sunauli.

Since the study aims to measure small scale business performance on Nepal-India border, we have four different dependent variables for the same explanatory variables. In terms of F and R² values, the overall mean regression of the variable is jointly important for the smoothness of small business performance at border area. For simplicity, this study explains the models as per its regression results, which is presented in table 3.

Table 3. Logistic regression result of small scale business performance

Dependent variable → Explanatory variables ↓	Open border	Border agitation	Communication access	Homogeneity in customs and costumes
	Model 1	Model 2	Model 3	Model 4
Year of business	-0.0229* (0.0136)	-0.00241 (0.0136)	0.0297* (0.0153)	0.00586 (0.0146)
Family members' involvement	0.0522 (0.0758)	0.0709 (0.0770)	0.156* (0.0881)	0.00271 (0.0820)
Average annual income	-5.40e-06 (1.75e-05)	-1.12e-05 (1.79e-05)	-6.01e-05*** (2.12e-05)	4.40e-05 (2.77e-05)
Relatives on other side of the border	-0.166 (0.236)	-0.452* (0.236)	0.625** (0.254)	-0.194 (0.257)
Business in other side of the border	0.235 (0.329)	-0.961*** (0.354)	-0.0751 (0.364)	-0.648* (0.339)
Tax evasion goods	0.739*** (0.223)	0.693*** (0.224)	0.0720 (0.233)	-0.375 (0.246)
Use of agent(s) to import goods	-0.0903 (0.253)	0.588** (0.259)	0.101 (0.270)	0.133 (0.278)
Constant	-0.531* (0.281)	-0.459 (0.281)	0.0170 (0.294)	1.129*** (0.313)
Observations	372	372	372	372

Standard errors are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

The first model of this study is related to open border association with border area's small scale performance. The result presented in Table 3 depicts that business operating years and tax-evasion goods significantly affect small business performance in open border area. It also indicates that the probability of having tax-evasion goods in the market increases due to open border and it affects small business performance in border area. The odds ratio of tax evasion goods is 2.09 times higher and statistically significant. Therefore, other things remaining the same, the probability of increase in tax evasion goods is double with the open border. The first model also shows that the odds ratio of small business performance due to open border increases overall by 1.05 times for the family involvement in business, 1.26 times with having business other side of the border but these variables are not statistically significant at 5% level of significance. The model indicates that with the existence of open border, the probability of longevity of business experience decreases. It signifies that people do not involve in the long-run business as more number of people are attracted to border activities. The first hypothesis is rejected as there is no significant relationship/ association between open border and the given explanatory variables. Hence, it concludes that business operating years are inversely associated while tax-evasion goods have positive association with open border.

The second model of this study observed the relationship between frequent border disturbance by border area agitation and border blockade. It reveals that there are some other variables, than given in model 1, are significant to the dependent variable i.e. blockade/ border agitation. Relatives living in other side of the border; business in other side of the border; agents to import goods along with tax evasion goods significantly affect border side small business performance. The probability of support for border area small business performance from relatives living in other side of the border and their own business in other side of the border decreases. In contrast, probability of agents to import goods and tax evasion goods are likely to increase with increase in blockade and/ or border agitation. The odds ratio of family involvement in border business activities, tax evasion goods and influence of agents increase during the situation of border agitation and blocked by 1.07 times, 2.00 times and 1.08 times respectively. The second hypothesis is also rejected since the model found significant relationship/association between blockade/ border agitation with four of the explanatory variables.

In the third model, relations of open border communication access to small scale business performance were captured where four variables out of seven were found substantially significant. It indicates that having communication excess in border area influences business operating years by 1.03 times, family involvement in business by 1.17 times, tax evasion goods by 1.07 times and agents involvement in import by 1.11 times. It also influences business by 1.87 from the relatives having other side of the border. The probability of business operating years, family involved in business and relatives on the other side of the border positively affect with the increase in communication while average annual income of border side small business negatively affects. Similar to previous two hypotheses, the third hypothesis faced the same fate. It shows there is significant relationship/association between communication with the given four explanatory variables in terms of small business performance in border area.

In the model four, the homogeneity in customs and costumes in small business performance in border have been assessed. Only businesses on the other side of the border are statistically significant with the homogeneity in customs and costumes. It entails that if the homogeneity in customs and costumes increase, there is decrease in both sides of the border business. The odds of business operating years, family involvement in business, annual income and agent to import is 1.01 times, 1.00 times, 1.14 times and 1.00 times respectively that signify homogeneity in customs and costumes influence but not in the very significant

level. As people residing both sides possess same attitude, obviously, this model is not able to capture difference between them. It mirrors that the fourth hypothesis is also rejected in case of homogeneity in customs and costumes indicating significant relationship/association between homogeneity in customs and costumes in small business performance in border and the selected variables.

4. Conclusion and policy implication

This study of cross-border business performance depicts that the local business activities and average income of the border area small shop owners have been substantially increased. From Sugauli Treaty 1950 to the present, many bilateral and mutual cooperations, facilities and promotions have been increased. According to the results obtained, business operating years and tax-evasion goods are major determinants of the small business performance in Nepal-India open border. The analysis farther indicates that during border disturbance as a result of border area agitation and border blockade; there is a high probability for the disturbance on border side small business performance. However, with the presence of relatives and businesses in other side of the border and importing goods from the agents, their businesses sustain and function. The facts mirror that small business performances are highly affected with the border region communication access, involvement of family members and homogeneity in customs and costumes, and tax evasion goods. Hence, small business performance in open border regions facilitates cross-flow of goods and services to the neighboring countries serving en route trade between them. This proves that more research including all the border transits at the level of assessment of open-border small business activities would be desirable and could help to better understand the importance of socio-economic influence in adjoining border regions.

This research can serve in policy making, for Ministry of Finance, Department of Customs, Chamber of Commerce, border area local trade organizations and trade regulatory bodies of Nepal. It remains asset in cross border trade regulations of Nepal-India open border situations by the illuminating results presented under open border cooperation status, cross-border purchase, role of market information and communication, socio-cultural communication of cross border people and cross flow of tax-evasion goods. The exploitation of the study results can also be impetus in harmonizing brotherhood relations, minimizing anti-social activities and balancing chasmic trade deficit relation between Nepal-India. Therefore, a very sincere and sustained virtuous efforts and consortium of operations are required from the local, provincial and central governments of both the nations.

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