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EDITORIAL

Preface for Frontiers in Management and Business

Editor-in-Chief: Hideaki Sakawa

Welcome to our new Journal on the science of business and management! *Frontiers in Management and Business (FMB)* is an international journal for global scholars and practitioners to provide original researches and insights in the field.

FMB seeks to provide an important venue for the discussion of management and business issues from perspectives of accounting, finance, and management. Previous studies in these areas are mainly focused on Western countries, especially United States. This can lead a lack of evidences or theoretical developments in other economies. In most fields related to management & business, theories have been developed based on the Western developed economies of the world. We may be tempted into thinking whether these theories are applied to and modified to other economics.

The aim of the Journal is to reveal the management and business difference of each nation and region that have different systems. In management and business area, many theoretical perspectives have been developed. For instance, cross-countries differences of social, economic, and political factors give diverse pressures especially in the Multi National Entities (MNEs) under the institutional frameworks. From the perspective of resource-based-views, strategy of firms might have heterogeneous because they have different resources to gain a competitive advantage in each industry or market. Agency theory applies to reveal the difference of monitoring mechanisms between dispersed and concentrated ownership structure countries like Anglo Saxon countries. Related to agency theory, corporate governance is on the way of reforming all over the world, especially in Asian countries. Thus, papers related to corporate governance might be valuable topics for policy-makers and practitioners. Unfortunately, most previous studies tend to focus to analyze western countries. In fact, there remains lack of evidences about family firms which are widely observed family firms in non-Anglo Saxon countries. These are several examples of important topics for FMB and our topics are not restricted to the above points. We think about every management and business phenomenon to apply theoretical explanations.

About "Call for Papers" of Launch Issue

I am delighted to announce the "call for paper" of our launch issue. We open with any topics related to Management and Business areas. FMB is also open to different methodological approaches, including, quantitative, qualitative, mixed methods, theoretical study, and case work, contributing to an understanding of something new in Management and Business. In addition, perspective and review papers are also welcome to submit. We are very much welcome to submit your high quality manuscripts in FMB in the future.

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RESEARCH ARTICLE

E-tourism in developing and underdeveloped countries: Case of Cameroon

Jonathan Tchamy[1*] Joseph Ateba[2] Berthe Cyrielle Maloum Koubikat[1] Idriss Thierry Tchamy[3]

Abstract: Tourism is a fragmented yet most popular sector worldwide. The involvement of ICT and social media in a tourism sector is now very popular in developed countries, meanwhile developing countries are still struggling on the implementation of the e-tourism in their respectively countries. The aim of this study is to provide an understanding of the related concepts and research foundation on E-tourism, and make an overview of E-tourism in several developing countries, then compare Cameroon's E-tourism industry performances with China's industry follow by the investigation of the major determinants of E-tourism adoption in Cameroon and recommendations for better E-tourism development in developing and underdeveloped countries like Cameroon. Differences between China and Cameroon are: cultural difference and environment differences. Opportunities between China and Cameroon are: creation of job opportunities and development of infrastructures that would benefit the tourism industry under the belt and road initiative. It is found that China's presence in Africa is very important ,also China has shown a growing interest in open up new markets and investments opportunities and accessing the energy resources of Africa in return it has offers credits opportunities, development assistance as well as strategic partnerships with African governments and they are equally interested in collaborating with Cameroon as they look for new businesses opportunities and ways to boost regime stability specially by developing the tourism industry.

Keywords: tourism, E-tourism, developing countries, Cameroon, business

1 Introduction

Tourism is one of the growing fragmented industries and the source of foreign income[1] with most business volume. There are many factors influencing this industry, such as natural and man-made scenes facilities, economic, political, social situations, ecological issues, business dynamics, *etc.*[2] Much information and communication technology (ICT) has been used in tourism industries in recent years. Many researchers used the term 'E-tourism' to use ICT for the tourism industry. It primarily involves applications for e-commerce to handle tourism business using information systems. The development of e-tourism, as the tourism sector, varies from country to country and region to region[3].

There, more and more people are becoming aware of the benefits of new technologies for planning leisure activities as a growing number of companies and organizations provide easily accessible tourist information via web services. Organizations have to seek the motivation level of their employees prior to adopting any technology[4]. Travelers, however, generally have limited knowledge of the city to visit and are unaware of local artistic, social or entertainment venues. A user may find a lot of information about the city, but he can spend a long time selecting the activities he prefers and organizing them to spend a day in a profitable way. Innovation is redefining rising sectors, the international tourism industry among them. The Cameroon's vision development strategy aims to turn the country from a low-income agriculture-based economy to a service-oriented society. Despite some obstacles that have sometimes slowed its growth, Cameroonian tourism seems to have found its secret weapon. The internet has brought a real breath of oxygen and an unprecedented alternative in the development of the tourism industry in Cameroon. The National Tourism Council has opted for the choice of the internet as an essential element of the new promotion strategy for Cameroon. From the Ministry of Tourism to private tourism companies, everyone is dancing to it. Direct impact: Internet users begin to dis-

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cover from their place of residence the true Cameroonian culture.

2 Literature review

2.1 The use of ICT in tourism

In many industries, such as finance, education, retail, *etc.*, the use of information and communication technology (ICT) has boomed over the past decade[5]. E-tourism is the term used throughout the world to describe the use of ICT in tourism to encourage and facilitate e-tourism services[6]. E-tourism is the use of information and communication technology (ICT) in tourism that can enable tourism to operate at least variable cost, less time and more efficiency in the workplace[7]. Tourism is widely recognized as highly informative. The Internet offers the possibility of making information and booking facilities available at a relatively low cost to a large numbers of visitors. It also offers a communication tool between suppliers of tourism, intermediaries and end users[8].

ICTs allow an organization to make the best possible use of all these sources. It will allow the organization to make timely decisions by taking advantage of the advantages available through technological advances. In terms of how information-intensive the industry is, the role of information and communication technology in the tourism and travel industry cannot be over-emphasized. In comparison to a physical product, tourism is intangible and cannot be pre-tested or checked before purchase; thus, access to accurate, reliable, timely and relevant information is important to help visitors and travelers make the right choices[9].

One of the major challenges facing the tourism industry is to provide relevant, reliable and localized data and to maintain a good customer relationship alongside it. In line with this, it is seen that alongside information technology, tourism is revolutionizing itself. Euro monitor (2016) has reported continuous growth in online travel on a global scale, but as the market matures, the rise is less drastic than in previous years. However, the report stated that short-term rentals raise the online value for 2015 by 17%, but airline remains the leading online travel segment, and digital channels account for 18% of all online sales with online travel agents gaining more in 2015 with a value of USD 67 billion worth of mobile purchases. The Online travel booking is rapidly penetrating and providing the travel and tourism guide with new business opportunities globally.

Tourism-related institutions and Internet businesses are coming together to explore the potential e-commerce market. Beyond the benefits to tourism-related organizations of e-commerce, e-commerce is increasingly changing the actions and desires of visitors. The internet has revolutionized the tourism industry as both a source of information for customers and a channel for the sale of tourism products.[10]. This has increased the promotion of tourist destinations and services. Other technology gadgets such as GPS, mobile phones, smartphones and handheld devices, apart from the internet, have improved tourism and tourist travel experiences. For improvement, the focus should be on accessibility to travel information, destinations, bookings, payments, hotels, attractions and the quality of maps. According to Forrester (2006), the current online travel expenditure is estimated at $73 billion, representing 35 percent of total online expenditure, and more than 80 percent of web shoppers use the reviews of other consumers in their travel plans (Forrester, 2006b).

Similarly, Compete, Inc. (2006) found that nearly 50% of travel buyers visited the message board, website, or online community for their online travel purchase, and one out of three buyers reported that user feedback helped with their purchase decision. Hence the value of IT and social media enhancement by internet accessibility is high with volunteering sustainability as social responsibility. Online travel reservations are increasingly expanding, adding new business opportunities to the international travel and tourism industry. Information technology has introduced online travel reservations through the introduction of the Internet and the World Wide Web, which has affected travel and tourism behavior of both consumers and industry Consumers have more options in terms of travel and budget planning[11]. Ninety-five percent of web users searched the Internet to collect information related to travel. Ninety-three percent visited destination websites, and almost half used email to collect travel-related information. The Internet is transforming the spread of tourism information and sales, according to the World Trade Organization (WTO). Increasing growing number of Internet users are buying online travel, and tourism is gaining a large share of the online trading market. The Internet offers the opportunity for tourism businesses to make information and booking facilities available at a low cost to a vast number of tourists. It also offers a communication tool between manufacturers of tourism, intermediaries and end-consumers. The accessibility of Internet resources, and the Internet itself, provides opportunities for the tourism industry to provide a pool of consumers with larger, broader and more personalized services than before, by creating effective partnerships at manageable costs and without significantly altering the value of the information provided. The current information society has made tourism a highly information-rich and intensively structured sector also the spreading of ICT has enormous potential impacts in the tourism business.

2.2 Tourism in Cameroon

CEMAC zone is considered the giant; the Cameroonian economy remains flourishing and promising despite the difficulties associated with the various crises it has been going through for a few years. The country contributed 29% of the GDP of the CEMAC zone. In terms of tourism, Cameroon is relatively stable compared to 2016 despite the crisis in English-speaking regions. The travel and hospitality sectors have been successful in boosting exports, providing foreign exchange and creating jobs for many Cameroonians. The sector employs 604,500 people or 2.8% of employment in the country. By the end of 2018, this rate is expected to increase by 5% and 3.3% annually by 2028 to reach 875,000 jobs (9.5% of the country's employment). Investments have also been at the heart of Cameroon's tourism activity in 2017. FCFA 107 billion is the total amount invested in this sector, *i.e.* 2.6% of the total investment in the country. It is expected to increase by 3.9 percent in 2018 and 3 percent per year over the next ten years to reach CFAF 142 billion (US $ 245.7 million) in 2028, or 2.2 percent of investment.

The Cameroonian government is promoting the country as "miniature Africa," claiming that the country offers all of Africa's diversity within its borders in climate, culture, and geography. Sometimes other tourist phrases include "Africa's melting pot" and "Africa in the microcosm." The tourist destinations of Cameroon are in four general areas: the coast, the main towns, the western highlands and the north. The coast offers two major beach resort towns: Limbe, an English-speaking town with black, volcanic sand; and Kribi, a French-speaking town with white sand. Mount Cameroon on the coast is Central and West Africa's highest mountain, attracting hikers and climbers. Yaounde is home to most national monuments in Cameroon. It has a variety of museums as well. The western highlands offer picturesque mountain scenery, waterfalls and lakes, and a cooler climate is given by the elevation.

Bamenda is the main town in the western highlands and the capital of the province of the northwest. This area is known for its traditional crafts and culture. Cultural understanding becomes important not only for itself but also to understand the social responsibility[12]. The town of Bafoussam is particularly famous for its culture and objects of wood carving. Indeed, in Cameroon, the area produces more crafts than any other. There are also traditional chiefdoms in the West, such as Foumban's sultanate. The north of Cameroon is the main tourist attraction of the country. There are several wildlife reserves in the region, including Waza National Park, the largest and best managed in West Africa. Such parks provide both hunting for animals and fishing for big games. There are cheetahs, elephants, giraffes, hippopotami, and rhinoceros in this area. Maroua has a large market for crafts and museums. The provinces of Adamawa, North, and South offer a new front for tourism industry growth, but weak transport conditions in these regions hold the industry small. Southern forest reserves have little tourist-oriented facilities, but tourists can see primates, lions, gorillas, and other fauna in the rainforest. (see Figure 1)

Figure 1. Cameroon Map

2.3 ICT in Cameroon tourism

The internet has brought a real breath of oxygen and an unprecedented alternative in the development of the tourism industry in Cameroon. The National Tourism Council has opted for the choice of the internet as an essential element of the new promotion strategy for Cameroon. From the Ministry of Tourism to private tourism companies, everyone is dancing to it. Direct impact: Internet users begin to discover from their place of residence the true Cameroonian culture. Websites and other blogs dedicated to travel are born and become real platforms for promoting tourist sites, hotels, and restaurants. Regarding the Cameroonian web, we notice more and more that most of the big hotels have an online representation either a Facebook account or a website and sometimes both. Online booking sites for hotel rooms or furnished apartments have been created, allowing travelers to prepare their stay. Let's take a look at the JOUFIJU platform so we understand why digital is important because in a few clicks you can get essential information, announcements, services and more about life in Cameroon in order to facilitate and improve your stay. On this site in addition to finding accommodation, the traveler can be aware of events taking place in another city.

2.4 E-Tourism in China

In many developing countries, the tourism industry is a major economic driver. This industry's contributions are

more prominent in economies where tourism accounts for a significant share of GDP[13] With the rising disposable income, more public holidays, and faster transportation, in recent years, China's domestic and outbound travel has grown unprecedented. With regard to Chinese tourism, China has recently become the first country on the global level in terms of spending[14]. In fact, they spent $102 billion in 2012, putting them before Germany and the United States. In 2012, the number of outbound tourists reached 83 million. China should be at the forefront of international tourism in terms of receiving and issuing visitors in a few years. At 546 million wired Chinese, China has the highest number of active Internet users. This is lower than the population of the EU (504 million). Also, 420 million

Chinese people use their mobile phone to connect to the Internet. Figures are also remarkable with regard to e-business: there are 242 million Chinese cyber buyers in 2012, June. It is one of the activities with the most significant growth, with+ 25 percent between 2011 and 2012. BCG's very serious office announces that in 2015, China will become the world's first e-business market. So we can see that in terms of e-business and tourism, China will be positioned in front of the other countries. Like all cyber consumers, Chinese people are increasingly planning their own online trips and rising their expenses. A recent e-marketer market research, a specialist office of statistical analysis, highlights the fact that China has been at the top of online sales among the BRICS (Brazil, Russia, India and China) since 2010 and this until 2016. When we examine China's e-tourism sector, we find that the market is dominated by three main actors: Ctrip, Elong and Qunar. Recently, the China Internet Watch office has outlined the market shares of the various companies on the Chinese market. We can clearly see that Ctrip and Elong are the leaders. Qunar has a special status as it is not really an online travel agency but a comparator using Ctrip and Elong. (see Figure 2)

Figure 2. Data on Chinese online market

3 Methodology

This section is concerned with the analysis and discussion of various factors influencing the adoption of e-tourism in Cameroon. We resort to descriptive analysis and ANOVA to test differences between mean rankings of three sub-groups; age, gender and country of origin. Chi square was also used to test how well sets of observations fit theoretical set of observation, including whether frequencies observed for rating internet in Cameroon (poor, average or good) fit the expected frequency. These analyses were performed using SPSS. During the survey Tourist participants were asked to rank certain aspects of internet use on a scale of 1 to 5, where 1 represents strongly disagree, 2- disagree, 3- undecided 4- agree and finally 5- strongly agree.

The reasons were assigned weights, and the weighted averages calculated as illustrated in the following table. As shown in the table, the three highly ranked factors justifying the use of internet include informative, convenience and currency. Lowest ranked was trustworthy. Perhaps the respondents did not place much importance to this construct because of many uncertainties and suspicion about internet. Many people would be hesitant to trust the contents and security of some transactions through the internet save for specific functions like bookings. Respondents gave equal ranking for efficient, trustworthy and easy to use.

Due to the 12,000 employees and the experience of Chinese preferences, we clearly see that Ctrip leads with nearly 50 percent of market shares. With regard to traffic, Qunar is at the top position. Yes, according to the Chinese marketing office of research, the website receives about 80 million unique visitors each month. One of the explanations of success is the current merger with the Chinese search engine Baidu. The fact that Chinese tourists are now avoiding travel agencies is also the product of these digital patterns. Such trends and figures again tell us that China is gradually establishing itself as a nation that will become a pioneer in the highly competitive tourism industry.

4 Results and findings

4.1 China's versus Cameroon's E-Tourism industry performances

China's presence in Africa is very important ,also China has shown a growing interest in open up new markets and investments opportunities and accessing the energy

Table 1. Inbound tourism (arrival by region)

Arrival by Region	CMR2013	CH2013	CMR2014	CH2014	CMR2015	CH2015	CMR2016	CH2016
Africa	215	401	211	497	192	488	219	502
America	23	3124	21	3107	27	3115	27	3379
EAP	24	117744	21	117276	22	123306	24	130357
Europe	182	6422	151	6209	167	5475	166	5988
Middle East	9	269	8	278	15	267	21	253
South Asia	0	1055	0	1125		1164		1296
Others	9	2	22	7	29	3	28	0
Total	462	129078	432	128498	452	133820	484	141774

resources of Africa in return it has offers credits opportunities, development assistance as well as strategic partnerships with African governments and they are equally interested in collaborating with Cameroon as they look for new businesses opportunities and ways to boost regime stability specially by developing the tourism industry. The comparison of the two countries tourism performances shows a huge gap; in fact, the inbound tourist flow in Cameroon over 2013-2016 time frame have been meaningless than the one observed in China during the same time period.

Precisely according to the United Nation World Tourism Organization report, Cameroon has observed a number of 783, 822, 897 and 994 thousand inbound tourists in 2013, 2014, 2015 and 2016 respectively while China has witnessed over 129,128,133 and 141 million of tourists during the same time period. This is clear on the Table 1&2, presenting the tourist inbound in the two countries, from the arrival by region as well as from the arrival by transport mode perspective. Figure 1,2&3 representing the tourists inbound from the two perspectives and the long trend on tourist inflows in the two countries is also in line with that idea.

Though these differences can be justified by the fact that China is a very large country compared to Cameroon, and obviously has more tourist places, and more infrastructures (roads, hotels, *etc.*), that make it be more attractive than Cameroon; the difference in using ICT to leverage tourist activities between the two countries might also be part. We do not have enough evidence to prove the difference in applying the ICT in order to get more competitive tourist industry; but we can still investigate the major's factors that determine the adoption of E-tourism in Cameroon.

4.2 Factors affecting the adoption ICT in tourism industry in Cameroon

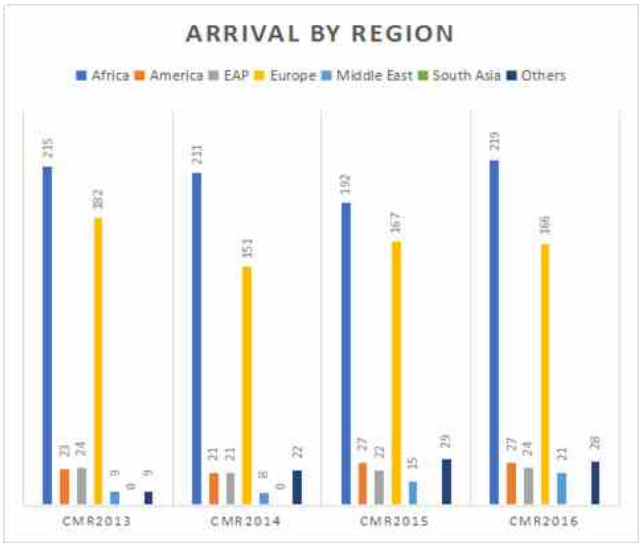
Table 2 computes the ranks of each aspects of internet utilizing the different weights. First, the total rank: $\Sigma(w \times f)$ is computed by multiplying the weights with its respective frequency, then computing the total. The mean rank R can be computed by dividing each sum by the respective N, in this case, 200, which gives us the order from highest to lowest.

4.3 Internet rating in Cameroon

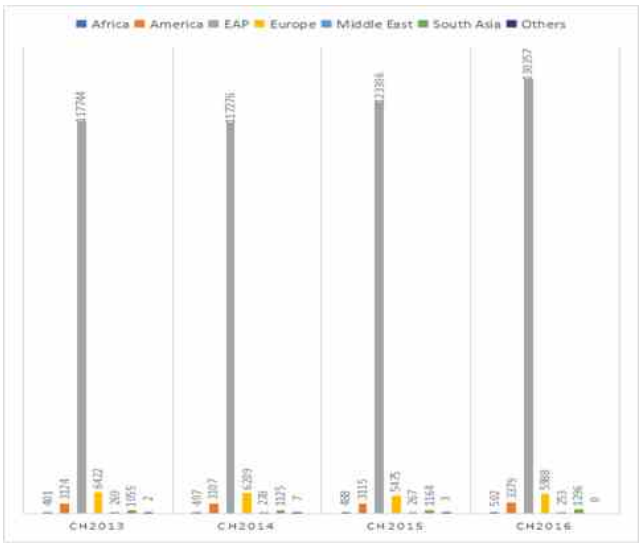
During the survey; the respondents were also asked to rate the internet in Cameroon on a 3-point scale ranging from poor to good. A substantial 41.5% of respondents rated internet in Cameroon as average, while 35% said it was good. The remaining 23.5% indicated that it was poor. The average rating could be attributed to the 75% of respondents coming from outside Africa. Obviously, the infrastructure in other continents is more advanced than what currently exists in Cameroon.

4.4 Ranking by age, gender and country of origin

One-way ANOVA demonstrated that ranking of various aspects of the internet related significantly to age and country/region of origin as shown on table 3. For instance, the youthful participants had higher means of 4.36, as opposed to the other groups such when rating internet as 'easy to use'. There was a variation in ranking within three domains between countries of origin. Rankings by European and American respondents for affordability of internet was higher (M=4.47) than those from Cameroon (M=3.86). Perhaps these rankings differ because the cost of internet in Cameroon is still higher than those in developed countries, and therefore respondents from Europe and USA were basing on the cost at home. The same reasons could explain higher rankings for speed among the Europeans and American respondents (M=4.47). As for effectiveness of internet, respondents from the rest of Africa appear to attach more importance than other respondents (M=4.27). (see Table 3, 4)



(a)



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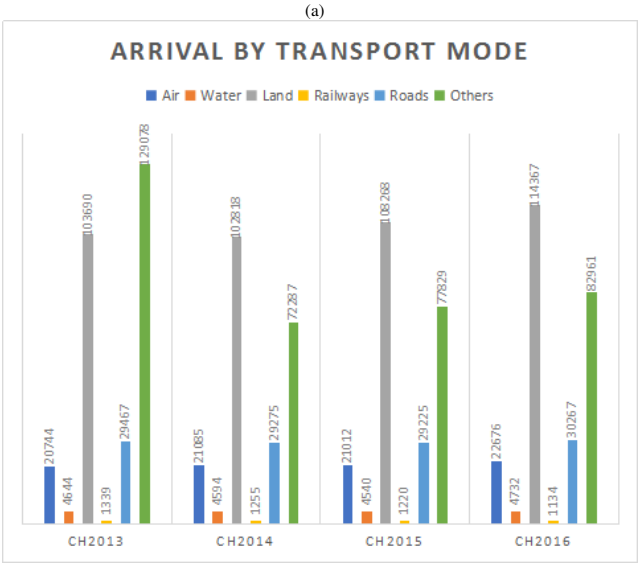

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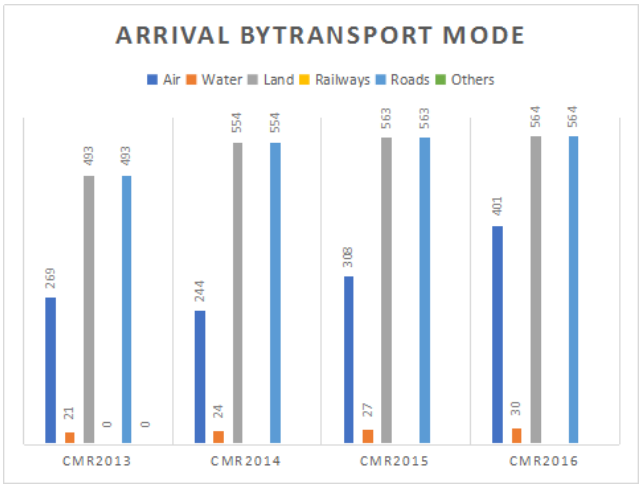

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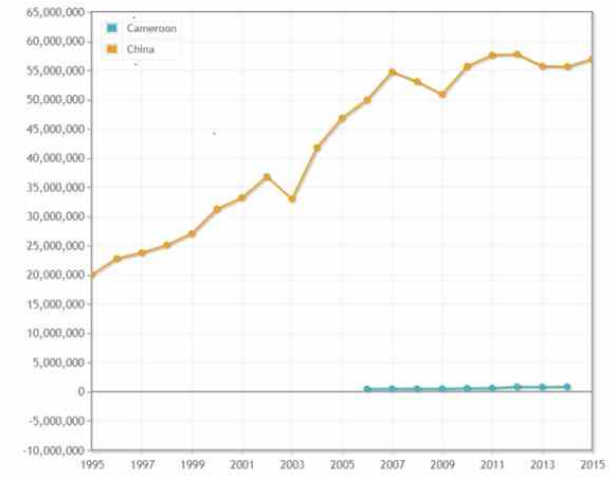

(e)

Figure 3. China *vs.* Cameroon's inbound tourists

Table 2. Inbound tourism (arrival by transport mode)

Arrival by Region	CMR2013	CH2013	CMR2014	CH2014	CMR2015	CH2015	CMR2016	CH2016
Air	269	20744	244	21085	308	21012	401	22676
Water	21	4644	24	4594	27	4540	30	4732
Land	493	103690	554	102818	563	108268	564	114367
Railways	0	1339		1255		1220		1134
Roads	493	29467	554	29275	563	29225	564	30267
Others	0	129078		72287		77829		82961
Total	783	129078	822	128498	897	133820	994	141774

Table 3. Determinants of E-tourism

Extended of Agreement	Strongly Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree (1)	∑(w*f)	R=∑(w*f)/N	Rank
Affordable	80	110	10	0	0	870	4.35	4
Convenient	90	105	5	0	0	875	4.375	2
Efficient	65	100	35	0	0	830	4.15	5
Fast	70	80	5	40	5	770	3.85	8
Trustworthy	10	70	110	10	0	680	3.4	9
Effective	45	135	20	0	0	825	4.125	7
Up-to-date	80	120	0	0	0	880	4.4	3
Easy to use	60	110	30	0	0	830	4.15	5
Informative	90	110	0	0	0	890	4.45	1

Table 4. Relationship between rankings and age, gender and country of origin

Extended of Agreement	Age	Gender	Country of Origin
Affordable	1.502	0.602	3.551*
Convenient	0.174	0.013	1.261
Efficient	0.596	0.411	1.735
Fast	0.556	0.492	94.881*
Trustworthy	1.997	0.446	0.664
Effective	0.393	0.323	6.436*
Up-to-date	1.581	0.066	1.476
Easy to use	5.024*	1.382	2.183
Informative	0.943	0.258	0.654

Note: *p≤ 0.05 Table 3 shows the F values of the three sets of relationships: *i.e.* rankings and age, gender and country of origin; The statistics that are significant at 95% level of confidence are also marked with asterisks

5 Conclusion and discussion

The adoption of e-commerce and other ICTs in general is critical for government initiatives. These can be in terms of encouraging the use of ICT, informing and setting up an appropriate e-commerce regulatory framework. Competition for both telephone and ISP services is a key area where government policy can make a difference in e-commerce access and adoption. Governments in developing countries need to ensure accessible and competitive telecommunications markets that offer a range of high-speed Internet access technologies and network services (particularly broadband) of acceptable quality and price, so that consumers can choose between different technologies and services.

Changes in government policy are seen as crucial to creating an environment for the widespread use of the Internet in many developing country industries. The government's investment and participation in the provision of Internet services and the elimination of import duties would result in cost reductions, which in turn will make equipment more accessible and promote internet connection. The government must create a national vision, a strategic plan, and e-commerce policy guidelines for tourism. All tourism stakeholders should be involved in developing e-commerce strategies. It is also the responsibility of policy makers to establish the appropriate laws, regulations and service standards to build trust and consumer confidence. There is a widespread comparison between entrepreneurship and franchising[15]. Entrepreneurs should follow business models adapted to their own e-business goals and the world of tourism.

Stakeholders should also find ways of incorporating SMTEs Small and Medium Size Tourism Enterprise into alliances across the industry. This will encourage SMTEs to stop competing at the destination level and develop mu-

tually beneficial networks. In line with this collaboration, they need to develop and execute networking or strategic alliances through collaborations with other SMTEs or large firms, particularly in the area of brand management, customer relationship management, and human resources management. As far as marketing is concerned, association with e-shopping would allow SMTEs to conduct internet-based e-commerce without bearing all the start-up costs, price increases, advertisement and technical difficulties that all merchants in the mall can share instead. E-shopping alliances would enable SMTEs to take advantage of e-commerce systems such as interactivity, mass customization, real time, and a customer database.

SMTEs may need to re-design their website at the established stage to focus more on "customer retention" than on "customer acquisition." They should also try their own digital brand to develop and manage. Brand power is more important on-line than off-line because the e-business main stage is the virtual world where consumers depend more on recognized brands. Finally, all policy makers and entrepreneurs must work together to raise awareness of e-commerce for investors, workers and customers through training and education. By encouraging and enabling tourism investors to take advantage of new Internet and e-commerce technology, e-commerce cannot be introduced.

Technology advancement has an impact on knowledge diversification. The role of information as the tool for liberating and unlocking a nation's wealth has been affirmed equally by various literature. Tourism has also been influenced by the influence of information and communication technologies ICTs, a result of the synthesis of information and technology. Creation of tourism and e-tourism has been explored from the perspective of investment. Different types of internal and external factors influencing e-tourism investments that are worth noting in this paper and in this research project. These factors are structural weaknesses in the national economy, population size, national GDP levels, man-made and natural disaster, limited knowledge of the technology available, lack of awareness, lack of confidence in e-commerce, system maintenance costs, lack of skilled human resources, resistance to e-commerce adoption, insufficient e-commerce infrastructure and small e-commerce market size. In the area where developing countries is experiencing strong growth with the democratization of Internet access, the arrival of 4G, E-tourism, the tourist and hotel sector are also experiencing growing development. Having become aware of the challenge that this represents, tourism and the hotel industry, several countries have created web platforms in order to develop this potential and contribute to the growth of attendance at their respective destination. The Internet is increasingly becoming the leading source of information on tourism, hotels and online sales of tourism products, gaining significant market share each year. As a result, in order to meet the growing demand, specialized e-commerce sites have already been launched in those countries. Based on our analysis we were led to observe that Cameroon in the field of e-tourism lacks a lot of adequate development for the purpose. A better e-tourism presence that, if developed well, can be an important contribution to improving tourism and bringing better revenues that would help the country develop better in terms of infrastructure and finances. For it to be done at the political level Cameroon needs to encourage companies and SMTEs embarking on e-tourism by facilitating laws to facilitate entrepreneurs to more invest in e-tourism, also improve infrastructures, telecom and better internet connection for a good visibility of Cameroon e-tourism. Also awareness among the population is important in order to use more of the computer tool and assessors to promote Cameroonian products and image.

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REVIEW

User-friendly computer programs so econometricians can run the a priori procedure

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Abstract: In the 2019 special issue of *Econometrics* on significance testing and alternatives, Trafimow (2019) provided an alternative, termed the a priori procedure (APP). The APP involves finding the necessary sample size to meet prior specifications for precision and confidence and Trafimow reviewed equations for performing the APP. But the Trafimow article is limited in two important ways. Most important, the crucial equations must be solved by iteration, thereby rendering them impractical without the aid of relevant programming. The present work addresses the limitation by providing links to user-friendly programs, along with instructions, so even researchers unsophisticated in mathematics or statistics can use the APP. An additional limitation is that the APP bears a surface resemblance to power analysis. Although Trafimow had explained qualitatively why the APP and power analysis differ, there were no quantitative demonstrations. In contrast, the present article provides quantitative demonstrations to increase the clarity of the distinction. A conclusion that comes out of the quantitative demonstrations is that power analysis, as it is conventionally used, causes researchers to use insufficient sample sizes; an ironic conclusion as an important reason for researchers to perform power analyses is to address the problem of insufficient sample sizes. Thus, the present work is a follow-up piece to the previous *Econometrics* article because it addresses two important limitations of that article.

Keywords: a priori procedure, sample size, mean, difference in means, proportion, difference in proportions, program

1 Introduction

The invalidity of the null hypothesis significance testing procedure is being increasingly recognized. For example, *Basic and Applied Social Psychology* banned the procedure[1,2]. More recently, the American Statistical Association produced a special issue of their flagship journal, The American Statistician, containing over 40 articles suggesting moving beyond significance testing because of its invalidity. Moreover, a strongly worded editorial, in that special issue, provided a clear repudiation of significance testing:

The ASA Statement on P-Values and Statistical Significance stopped just short of recommending that declarations of "statistically significance" be abandoned. We take that step here. We conclude, based on our review of the articles in this special issue and the broader literature, that it is time to stop using the term "statistically significant" entirely. Nor should variants such as "significantly different", "p<0.05", and "non-significant" survive, whether expressed in words, by asterisks in a table, or in some other way[3].

Several medical journals, such as the *New England Journal of Medicine* have changed their publication policies in accordance with the ASA statement.

Fields in economics or related to economics are changing too. Perhaps the most dramatic evidence of this is the *Econometrics* 2019 special issue on the topic. Trafimow (2019) published an article in the *Econometrics* special issue that not only advocates against significance testing; but advocates for a new inferential procedure, termed the a priori procedure (APP). Although the article provides relevant equations for applying the APP, an important limitation is the lack of accessible computer programming. Without such computer programming, researchers not expert in mathematics, statistics, and computer programming might find it difficult to use the APP, no matter its merits. The present article remedies the lack by providing links to programs that facilitate the ability of researchers to use the APP.

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2 APP review and relevant websites

Unlike other inferential procedures, that are performed post-data; the APP is performed pre-data. The researcher considers two questions, pertaining to precision and confidence, before data collection[4].

(1) Precision: How closely do I want the sample statistics of interest to approximate their corresponding population parameters?

(2) Confidence: With what probability do I want to attain the precision specification?

After committing to precision and confidence specifications, the researcher uses an appropriate APP equation to find the minimum sample size needed to meet those specifications. Once the required sample size, or a larger one, has been collected; no further inferential work is necessary. The researcher can compute the sample statistics of interest, confident that these sample statistics will be close to corresponding population parameters. There is no need for null hypotheses, p-values, or post-data confidence intervals.

For instance, consider the simplest case where a researcher assumes a normal distribution and collects a single sample of participants, with the goal of obtaining a sample mean that is within one-tenth of a standard deviation of the population mean, with a 95% probability. Equation (1) provides the simple solution:

$$n = \left(\frac{z_{(1-c)/2}}{f} \right)^2 \tag{1}$$

where n is the necessary sample size to meet specifications, f is the precision specification as a fraction of a standard deviation (0.1 in the example), and $z_{(1-c)/2}$ is the z-score that corresponds to the confidence specification (*e.g.*, 1.96 for 95% confidence level in the example below).

Continuing with the example, the calculation would run as follows: $n = \left(\frac{1.96}{0.1}\right)^2 = 384.16$. Rounding up to the nearest whole number, as participants do not come in fractions, implies that the researcher needs to collect 385 participants to have a 95% chance of obtaining a sample mean within one-tenth of a standard deviation of the population mean.

Equation (1) is simple and does not really require a program. Nevertheless, we provide such a program at the website:

https://app-normal.shinyapps.io/N_SingleSample_EstimateMean_KnownVariance

To use the program, type in the desired precision in the precision box and the desired level of confidence in the confidence box. Click the "Update" icon and the program will return the smallest sample size necessary to meet the specifications.

Unlike Equation (1), where the standard deviation is assumed known, more complex APP equations feature inequalities, where the researcher has to find the smallest sample size for which the inequality is true. Let us consider a slightly modified example where the standard deviation is not known, in which case there is an inequality that involves the t-distribution with n-1 degrees of freedom, as opposed to the z-distribution we saw earlier:

$$t_{\alpha/2,n-1} \leq \sqrt{n} f \tag{2}$$

To obtain the required sample size without computer programming, the researcher would perform successive iterations to find the smallest value for n that satisfies the inequality. The researcher would try a value for n, check the result using the inequality, try another value for n, and eventually, after many iterations, converge on the smallest value for which the inequality is true.

Although, at the time of the Trafimow (2019) *Econometrics* article, no programs existed for carrying out Equation (2), this is no longer true. We now provide a practical alternative that the researcher can access the following website:

https://app-normal.shinyapps.io/N_SingleSample_EstimateMean_UnknownVariance

It is merely necessary is to type in the desired level of precision and the desired level of confidence and click the "Update" icon. The program will provide the sample size needed to meet specifications, provided that the precision varies between 0.20 and 0.90. For finer precision, the required sample size is extremely large, and so the t-distribution approximates the z-distribution. Thus, it is permissible to use the equation where the standard deviation is assumed known and the associated website provided earlier.

Sometimes researchers are interested in variances rather than means[5]. For example, an econometrician might be interested in finding how much variance there is in wealth in the United States. To find the sample size needed to meet specifications for precision and confidence pertaining to variances, it is necessary to use the following equation:

$$\int_{L(n)}^{U(n)} f_{n-1}(u)du = c \tag{3}$$

where $f_{n-1}(u)$ is the density function of the chi-square distribution with degrees of freedom n-1.

For an easier alternative, use the program now available at the following website:

https://skewnormal.shinyapps.io/N_SingleSample_EstimateVariance/

Type in the desired precision and confidence levels, click the "Update" icon, and the program will return the necessary sample size to meet specifications.

The researcher may be interested in the difference in means for matched or independent samples[6]. An example involving matched samples would be if an econometrician were interested in the increase or decrease in people's income, in a particular population, over a decade. In a retrospective study, the researcher would select a sample of participants from the population and find their mean income a decade ago and today. The hope is that people's mean incomes are better now than a decade ago. To determine the necessary sample size needed to meet precision and confidence specifications, it is necessary to use the following equation, which is the same as Equation (2); but with *n* referring to the sample size in both groups:

$$t_{\alpha/2,n-1} \leq \sqrt{n} f \tag{4}$$

An independent samples example would be if an econometrician were interested in comparing mean incomes in Illinois versus mean incomes in Indiana. There might be theoretical reasons to believe that incomes should be larger in one of the states than in the other, and the hope would be that the hypothesized difference would be supported by the data. When there are independent samples, there is no guarantee that the sample sizes will be equal, and it is convenient to designate that there are *n* participants in the smaller group and *m* participants in the larger group, where $k = n/m$. Using *k*, we derived Equation (5):

$$t_{\alpha/2,q} \leq \sqrt{\frac{n}{k+1}} f \tag{5}$$

where $t_{\alpha/2,q}$ is the critical t-score that corresponds to the level of confidence level 1-α and degrees of freedom $q = n + \left[\frac{n}{k}\right] - 2$ in which $\left[\frac{n}{k}\right]$ is rounded to the nearest upper integer. Details on Equation (4) and Equation (5) are in Trafimow *et al.* (2020).

If the researcher has equal sample sizes, Equation (5) reduces to Equation (6):

$$t_{\alpha/2,2(n-1)} \leq \sqrt{\frac{n}{2}} f \tag{6}$$

Alternatively, there is now an easier way. A researcher interested in the difference between means for either matched or independent samples, can access the following website:

https://app-normal.shinyapps.io/N_TwoSamples_EstimateMean

Simply type in the desired precision and confidence in the boxes provided and click the "Up- date" icon. The program will return the minimum sample size needed to meet specifications for matched and independent samples. In the case of matched samples, of course, the two groups are the same size and contain the same participants. Thus, the sample size per group also equals the total sample size. But when samples are independent, the program returns the minimum sample size per condition. The sample sizes need not be the same in the two groups, but both groups must have the sample size returned by the program, or larger ones, to meet specifications. Another way to put this is that the smaller of the two groups must meet or exceed the sample size returned by the program.

Thus far, whether the statistic of concern was a mean, a variance, or a difference in means, we assumed normal distributions. However, APP equations also have been developed that pertain to proportions or differences in proportions. For example, a researcher might wish to estimate the proportion of people that can afford a new car. Or, a researcher might wish to compare the proportion of people that can afford a new car in New Mexico with the proportion of people that can afford a new car in Arizona. Either way, the distribution is binomial, rather than normal, with the important caveat that with a sufficiently large number of participants, the two distributions approximate each other. In the case where there is a single sample and the researcher wishes to know how many participants to collect to meet specifications for precision and confidence, the following equation can be used:

$$n = \frac{z^2_{\alpha/2} p_0 q_0}{E^2} \tag{7}$$

An easier way is now available at the following website:

https://app-normal.shinyapps.io/EstimateProp_OneSample

To use the website, type in the precision and confidence specifications, as before. But there are additional issues. First, unlike the previous cases, precision is not specified as a fraction of a standard deviation; but rather as an absolute number. For example, specifying 0.03 for precision implies that the sample proportion will be within 0.03 of the population proportion at the specified level of confidence. Second, there is an additional box, which is an initial estimate p_0 of the proportion (note that q_0 = 1-p_0) from previous data information. If there is a good reason for assuming a value other than 0.50, such as the availability of previous data; type in that value. Otherwise, use 0.50. After clicking "Update", the program will return the necessary sample size.

Or, if the researcher is interested in comparing two proportions, the difference in sample proportions is used to estimate the difference in population proportions. To find the minimum sample size needed to meet specifications for precision and confidence, the researcher can use the

following equation:

$$n \leq \frac{z^2_{\alpha/2}\left(p_{10}q_{10} + p_{20}q_{20}\right)}{E^2} \tag{8}$$

We provide a program at the follow website: https://app-normal.shinyapps.io/EstimateProp_TwoSamples

To use the program, specify precision and confidence, as described earlier with respect to a single proportion. In addition, there are two extra boxes that pertain to the two samples,respectively, where p_{10} and p_{20} are initial estimates of the proportions from previous information of two independent samples. If there is a good reason to have a particular estimate, with respect to one or both of the samples, type in the estimates in the boxes provided. If not, use 0.50 in one or both boxes.

3 How the APP and power analysis differ

Because the goal of the APP is to help researchers determine the sample sizes to use and the goal of power analysis also is to help researchers determine the sample sizes to use, there is a surface similarity between the APP and power analysis. However, the two are extremely different and one way to demonstrate the usefulness of the computer programs is to use them to for quantitative contrasts.

Let us begin qualitatively. To reiterate, the goal of the APP is to find the sample sizes researchers need to meet specifications for precision and confidence. In contrast, the goal of power analysis is to find the samples sizes researchers need to have a good chance of obtaining statistical significance at a specified effect size. Typically, though not always, researchers assume a medium size effect (*e.g.*, Cohen's $d = 0.05$) and 80% power. The following demonstrations will make use of these conventions. The important qualitative point is that the APP is highly in uenced by the desired level of precision, whereas power analysis is not; but power analysis is highly in uenced by the designated effect size, whereas the APP is not.

Let us now use the computer programs for some quantitative contrasts. First, imagine the case of a single group, where the researcher wishes to obtain a sample mean that is a good estimate of the population mean, such as obtaining a sample of Americans with the goal of obtaining a sample mean to estimate the population mean. Remaining with conventions, the researcher wishes to have 80% power to determine a medium size effect; and uses a power analysis calculator to find that the necessary sample size is 31. However, using the single sample APP program with known variance implies that the precision is an unimpressive 0.35 at the conventional 95% confidence level. The sample mean to be obtained has a 95% probability of being within 0.35 standard deviations of the population mean, in either direction, for a total interval of 0.70. Assuming unknown variance leads to a slightly worse precision value of 0.36. Either way, the unimpressive precision value demonstrates that the conventional use of power analysis leads to imprecise research.

Nor must the demonstration be limited to the simple case of a single sample. Let us consider the slightly more complex case where the econometrician is interested in a difference between means (matched samples), such as the difference in income now relative to a decade ago. How many participants should the econometrician collect? According to power analysis, the researcher needs to collect 33 participants to detect a medium effect size with 80% power. But using the APP program pertaining to differences in means indicates that the precision level is only 0.35, so that the total precision interval is 0.70. Nor are matters improved if we consider the difference in means in independent samples, such as the difference in mean income between residents of Illinois and Indiana. According to conventional power analysis, the researcher would need to collect 63 participants from each state to detect a medium effect size with 80% power. However, the precision level would be 0.35, for a total precision interval of 0.70. Again, we see that conventional power analysis leads researchers to conduct studies with poor precision.

Nor do matters change when we consider a difference in proportions. Suppose the researcher wished to detect a medium size effect at 80% power (for proportions, the effect size statistic would be h rather than d). For example, a difference in proportions between 0.68 and 0.43 would result in $h \approx 0.5$. According to power analysis, the necessary sample size would be 63 participants in each condition. But using the APP program concerned with differences in proportions, this leads to precision equals 0.17 and a total precision interval of 0.34. As we explained earlier, unlike the examples involving differences in means, when differences in proportions are involved, the precision interval is an absolute number rather than a fraction of a standard deviation. We leave it to the reader to judge whether power analysis performs worse, in precision terms, in the context of differences in means versus differences in proportions.

4 Discussion

To render the APP easier to use, we provided free and publicly available computer programs, along with descriptions of how to use them. For the reader's convenience, all links can be accessed in Table 1. The user merely pastes the appropriate link into her browser to use the chosen program.

Table 1. Publicly available computer programs that can be used to find the required sample size for different researcher goals. Note that the link for 'difference in means' works for both matched and independent samples

Researcher Goal	Website
Mean for single sample, known variance	https://app-normal.shinyapps.io/N_SingleSample_EstimateMean_KnownVariance
Mean for single sample, unknown variance	https://app-normal.shinyapps.io/N_SingleSample_EstimateMean_UnknownVariance
Variance of single sample	https://skewnormal.shinyapps.io/N_SingleSample_EstimateVariance
Difference in means	https://app-normal.shinyapps.io/N_TwoSamples_EstimateMean
Proportion	https://app-normal.shinyapps.io/EstimateProp_OneSample
Difference in proportions	https://app-normal.shinyapps.io/EstimateProp_TwoSamples

As always, there are limitations. The main limitation here is the lack of consideration of skew-normal distributions. The family of normal distributions is a subset of the family of skew-normal distributions. Therefore, the family of skew-normal distributions is generally more applicable than the family of normal distributions, though the family of skew-normal distributions is much more difficult to handle. Consequently, there are APP equations pertaining to skew-normal distributions in various stages of progress, analogous to the present equations pertaining to normal distributions. To address the limitation, we expect to write a companion piece, similar to the present one, but that can handle skew-normal distributions.

An interesting point that Trafimow, Wang and Wang (2019)[7] demonstrated is that skewnormal distributions imply more precision than do normal distributions. A consequence is that the present APP equations pertaining to normal distributions are more conservative than APP equations pertaining to skew-normal distributions, in the sense of requiring larger sample sizes to meet specifications for precision and confidence. Thus, if the researcher does not know the skewness of the distribution or distributions of interest, the assumption of normality can be considered a conservative way to address the lack of knowledge. That is, the sample sizes produced by the present programs will meet or exceed the necessary sample sizes to meet specifications for precision and confidence when there is skewness. Therefore, for researchers who wish to act conservatively, the present programs should suffice even for skewed distributions.

We hope and expect that the present programs will facilitate econometricians using the APP. No particular mathematical or statistical ability is required to use the programs. Nor is there a requirement for the user to be expert at programming, to know any programming languages, or even to know any statistical packages. However, to use the programs appropriately, it is of utmost importance to understand the APP philosophy. Towards this end, we recommend that users consult the companion *Econometrics* article by Trafimow (2019)[8], that spells out that philosophy in greater detail than the present article.

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RESEARCH ARTICLE

Accounting information quality and investment decisions in the emerging markets

Nouha Khoufi

Abstract: Accounting information quality has been said to play an important role in reducing information asymmetry. Thus, firms with high accounting information quality may enhance more investors' decisions. This paper aims to empirically examine the association between accounting information quality and investment decisions among firms in Tunisia. The sample of this study consists of 50 firms listed on the Tunis Stock Exchange covering 2012 to 2016. The findings imply that accounting information quality is significantly negatively related to investment inefficiency. The inclusion of control variables and the use of alternative models to measure accounting information quality provide consistent findings. This paper has several important contributions. First, this paper provides new empirical evidence in an emerging market. Although emerging markets make up the vast majority of economic activity around the world, they have received limited attention in academic research. Second, this paper can also help researchers to better understand and realize the governance role of accounting information, and push them to investigate the other role of accounting information deeply and broadly.

Keywords: accounting information quality, investment inefficiency, agency costs, financial constraint, asymmetry

1 Introduction

Many researchers have explored that the major objective of accounting information was to help its users make informed decisions. In addition, high-quality accounting information can also inform investors in a timely manner about the orientation of the firm's capital investments and help them to supervise managerial activities. Similarly, Bushman and Smith[1] find that high-quality information disclosures are beneficial to investors by monitoring management, encouraging them to make investment decisions efficiently and effectively and finally improving capital allocation efficiency and gaining more returns to investors. Houcine[2] argue that investors are concerned with the quality of accounting information because it helps them to better understand the company's operating situation and other fundamentals. Therefore, high-quality accounting information affords external stakeholders a comprehensive understanding of firm fundamentals and allows them to take action to supervise management behavior.

An investment decision basically consists of the process of accepting or rejecting a particular investment project. Thus, it can be noted that, from a theoretical point of view, the decision is simple: projects for which the return is greater than the opportunity cost must be accepted, while others must be rejected. In real life, this process is not so easy, since the decision to accept or reject a project can be influenced by agents' interests in the decision-making process. Thus, accepting economically unviable projects or rejecting economically attractive projects can occur when the outcome of such deliberations offers benefits to decision makers, even when it causes losses to shareholders[3].

Firms use accounting information in investment decision-making to whether invest in physical project or invest in capital market. Firms need to invest in efficient investments with positive Net Present Value (NPV), and let go projects with negative NPV for better future growth and expansion. Accounting information is therefore important to facilitate informed decision[4].

This main objective of this study is to investigate the association of accounting information quality and investment decision using firm level observations in an emerging market such as Tunisia. The primary reason for choosing Tunisia is that we found an interesting research track in order to test the economic consequences of the quality of financial information in such an environment. Espe-

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cially, in the face of this increasing doubt done over the quality of accounting results following the wave of financial scandals whereby Tunisia was not spared with BATAM case which is a manipulation case of accounts that auditors, such as in the Enron case in the United States, didn't report in time and that took on the emergence of a real financial scandal, affecting the credibility of the stock market as well as weakening seven local banks. Also the Tunisian firms are characterized by a weak informational environment, namely a weak level of voluntary divulgation of information, little follow-up by financial analysts as well as quasi absence of media coverage by the economic and financial press, that turns the accountable information a component relatively more dominant among the set of information used by the different users of financial statements in their decision-making process[5].

The paper is organized into five sections including this introduction. Section 2 presents a brief theoretical framework discussing the determinants of the quality of accounting information, and the relationship between accounting information quality, investment decision, and financial constraint. Section 3 explains the empirical methodology, including the choice of variables and data issues. Estimation results are presented and discussed in Section 4 and we concluded in Section 5.

2 The association between the quality of accounting information and the investment decision

One of the main objectives of accounting information is to provide information that can facilitate the efficient allocation of capital. In other words, quality of financial information should be one of the most important inputs in decision-making regarding capital allocation that is investments[6]. The Financial Accounting Standards Board (FASB) states that one objective of financial reporting is to help present and potential investors in making rational decisions for investment. Firm is seen as investing efficiently if it invested in projects with positive Net Present Value (NPV). If the firm passed up on investment opportunities that would have positive NPV, then the firm was under-investing. On the other hand, when firm invests in investments with negative NPV, the firm was over-investing. Under or over-investment indicate that the firm is not investing efficiently. Hence, the level of firm's investment efficiency can be gauged from the absence of under or over-investment[1].

Based on 3600 firm-year observations of A-share listed companies on the Shanghai and Shenzhen exchanges from 2004 to 2006, Li[7] examines the influence of accounting information quality on the under- and over-investment of listed companies. His results show that high-quality accounting information reduces the risks of moral hazard and adverse selection and inhibits both under-investment and overinvestment by ameliorating contracts and supervision, thereby improving capital allocation efficiency at the company level.

2.1 Quality of financial information, capital cost and information asymmetry

The accounting information represents an important source of information specific to the company that tends to reduce the level of information asymmetry between investors and the company and therefore contributing to a better functioning of financial markets[8].

Under lower external financing costs and investor's capital rationing, there is less possibility that managers pass up investments with positive NPV (lower under-investment). According to Jensen[9], lower adverse selection opportunity decreases the opportunity for managers to engage in value-destroying activities and self-maximizing decisions such as build an empire-building with ample capital (less over-investment).

Therefore, Easley and O'Hara[10] show that poor quality of accounting information leads to an undiversifiable information risk between informed and uninformed investors, thus increasing the cost of capital. On the other hand, the publication of better financial information in terms of quality and quantity would reduce this level of risk and therefore the cost of capital. Similarly, Yee[11] asserts that poor quality of the published information is considered to be a non-diversifiable risk factor leading to an increase in the risk premium, a component of the cost of capital. Also, Lambert[12] demonstrate how better quality of information accounting disclosure consents to reduce systematic risk by changing the perceptions of different stakeholders in the financial market regarding the distribution of future cash flows, and as a result, attenuating the cost of capital. For his part, Suijs[13] illustrates that better quality of financial information reduces the cost of capital by lowering the volatility of securities by improving risk sharing between generations of investors.

As well, in the light of literature developed above and empirical works, if a better quality of accounting information published, namely in terms of reliability, enables to reduce the levels of information asymmetry, and so the capital cost, it will be associated with a better decision of investment, facilitating the access to external funding sources for companies with a less cost, and consequently to reduce under-investment. Such an association was documented as well over the emerging developed markets, from which, we suggest testing the following hypothesis:

H1: A better quality of published accounting information is negatively associated with under-investment.

2.2 Quality of financial information, agency costs and control of managers

According to previous studies from the perspective of agency theory, the main reason for financial information is to alleviate the problem of information asymmetry by increasing shareholders, creditors, and others access to information about a company.

As the access to the accounting information increases, the privileged position held by managers in relation to private information decreases[9]. Based on this assertion, the accounting information is currently used as an input within contracts of inciting remuneration in order to motivate the managers to act in the interest of stakeholders and constitute an important source of information on which governance organs are based on controlling managerial activities[1,2].

For instance, several past studies find that accounting information is used by shareholders to monitor managers[1,12] and it is an important source for investors in monitoring firms' performances[4,14]. Therefore, if higher financial information quality improved investors and shareholders ability to monitor managerial activities and detect their dysfunctional behavior such as over and under-investment, it could lead to managers investing more efficiently.

Based on the above theoretical arguments, we tend to check the hypothesis below:

H2: A better quality of published accounting information is negatively associated with over-investment.

3 Methods

3.1 Sample and data collection

In order to test our hypotheses in the Tunisian context, we select a sample of 50 companies listed on the Tunisian Stock Exchange (TSE). This number is limited because we have eliminated the financial companies due to their specific financial data. This study is based on observations from 2012 to 2016. The data are collected from the publications of the sample companies (annual reports, prospectuses, *etc*.) available at the Financial Market Council, among some brokers or some companies' websites and on the publications of the TSE.

Table 1 provides distribution of the sample by industry based on the DataStream-industry classification. The sample is represented by 12 industries.

Table 1 Sample distribution by industry

Industry	N	Percentage (%)
Construction and materials	7	14
Electronic and electrical equipment	3	6
Food producers	2	4
Telecommunication	5	10
Electronic and electrical equipment	6	12
Oil equipment and services	3	6
Health care equipment	2	4
Industrial metals and mining	4	8
Industrial transportation	5	10
Software and computer services	6	12
Support services	4	8
Technology hardware	3	6
Total	50	100

3.2 Investment decisions

First, we tested the association between the investment decisions and the quality of accounting information conditional on the assumption that the company is in a situation more prone to over or underinvestment. Similar with past studies[6,15], both overinvestment (positive deviations from expected investment) and underinvestment (negative deviations from expected investment) are considered inefficient investments. Specially, we use the model that predicts investment as a function of revenue growth. The model is described as follow:

$$\text{Invest}_{i,t+1} = \beta_{i,t+1} + \text{RevGrowth}_{i,t} + \varepsilon_{i,t+1} \quad (1)$$

Where:

(1) $\text{Invest}_{i,t+1}$ = total investment expenditure for year t+1, which relate to fixed capital investment and are measured by the difference between the gross values of fixed assets of t+1 and t, deflated by the capital stock at the start of the period.

(2) $\text{RevGrowth}_{i,t}$ = revenue growth defined as percentage change in revenue from year t-1 to t.

(3) $\epsilon_{i,t}$: the residuals of the model, which represent the inefficiency of the investment.

Then, we will then use the residuals of model (1) as a specific proxy for the level of deviation of the company from its expected level of investment. The negative (positive) residuals from the regression model (1) indicate under investment (over investment). In our analyses, we use the absolute value of residuals as a proxy for investment efficiency.

Thus, based on the residual of the model, we could identify differences and make the necessary groupings, as shown in Figure 1.

3.3 Accounting information quality

There is no universally accepted measure of accounting information quality[6,16]. But no number could be as attractive to users of financial statements as the account-

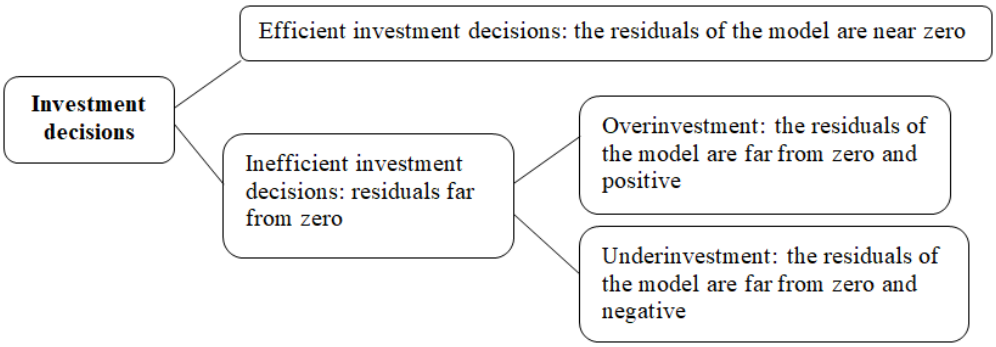

Figure 1 Grouping of firms according to efficiency in investment decisions

ing result[16]. According to Francis *et al*.,[17] the quality of accounting results has several attributes, namely reliability, relevance, conservatism, punctuality, smoothing, predictability and persistence. At the level of this research, we will in particular be interested in two attributes of the accounting result, namely: the quality of accruals and accounting conservatism. Our choice focused on these two attributes since it has been widely demonstrated by the various previous works[6,15,18,19] that it is mainly these two attributes of the accounting result which improve the investment behavior of companies. Practically, a better quality of accruals increases the accuracy and reliability of accounting results, lowering the cost of capital and thus reducing underinvestment. On the other hand, a more conservative accounting result, allocates to governance bodies to exercise better control over managerial decisions, and therefore to reduce ex-ante their incentive and ability to undertake unprofitable investments.

3.3.1 Measure of the quality of accruals

Managers can use their discretion to manipulate results via accruals and to alter the actual performance of the business. This is why the results, which quickly turn into cash flow, represent the most desirable quality of profits. Francis *et al*.,[17] consider that this rapid transformation of results into cash flow, is at best captured by the model of Dechow and Dichev[20]. The DD model (2002) suggests that the quality of accruals is assessed by the degree of association between the change in total current accruals with cash flows from past, present and future periods. However, we will use the modified DD model (2002) as proposed by McNichols[21] to determine discretionary accruals. This model states that beyond cash flows, the change in net sales and the proportion of tangible fixed assets are variables important in forecasting with respect to currents accruals:

$$\mathrm{CUACC}_{i,t} = \beta_0 + \beta_1 \mathrm{CFO}_{i,t-1} + \beta_2 \mathrm{CFO}_{i,t} + \beta_3 \mathrm{CFO}_{i,t+1} + \beta_4 \mathrm{AS}_{i,t} + \beta_5\ \mathrm{Asset}_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where:

$\mathrm{CUACC}_{i,t}$: the amount of current accruals of firm i for year t, calculated as follows:

$$\Delta CAit - \Delta CLit - \Delta LIOit + \Delta DEBit \quad (3)$$

Where:

ΔCAit: change in current assets between t-1 and t;

ΔCLit: change in current liabilities;

ΔLIQit: change in liquidity t-1 and t;

ΔDEBit: change in current debts between t-1 and t;

$\mathrm{CFO}_{i,t-1}$, $\mathrm{CFO}_{i,t}$and $\mathrm{CFO}_{i,t+1}$: cash flow from operations for the years t-1, t and t + 1,

$\mathrm{AS}_{i,t}$: change in annual sales between t-1 and t;

$\mathrm{Asset}_{i,t}$: proportion of tangible fixed assets in year t.

In this model, the absolute value of the residuals is used as a proxy the quality of accruals (QACC). We will multiply this value by (-1), so that a higher value corresponds to a better quality of the accruals, and therefore, of the accounting results. The quality of accounting information is therefore assumed to be inversely proportional to the company's propensity to manage the accounting result.

3.3.2 Measure of accounting conservatism

At the level of the current research, we are going be interested in an attribute of accounting result, namely accounting conservatism. In fact, a more conservative accounting result, allocates to governance organs to exert a better control on the managerial decisions, and thus to reduce ex-ante their incentives and their qualifications in order to undertake non-profitable investments. Yet, we will specifically be interested in conditional conservatism. According to Gively and Haynes[22], there are two types of conservatism: conditional and unconditional. Unconditional conservatism results in under-evaluation of the accounting value of net assets since the start of the economic activity of the company, because of the selection beforehand, of accounting conservatism methods. While under-evaluation of assets led by the conditional conservatism is attributable to the delay of accountability

between latent losses and gains. As we prepare to show that through asymmetric recognition of gains and losses, this form of conservatism endorses a role of control on the activities of managers, namely those that are reattached to the investment decision. We will use the accumulation of non-current accruals, in view of apprehending the degree of conservatism for every company-year.

The current measure was initially developed by Givoly and Haynes[22] and then repeated by several authors[19,23]. These latter argue that the underlying intuition behind resorting to this measure lies in the fact that it captures caution and vigilance such as the trends of accountants to require more auditing so as to recognize the good news in terms of financial statements and manage to anticipate bad news. In fact, non-current accruals comprise accounting posts subject to the application of the precaution principle, such as: provisions, change effects at the level of accounting estimation methods, losses on asset disposals, impairment of assets, *etc*.

Though these rubrics must be mandated by the Generally Accepted Accounting Principles, both the schedule and size of these loads/expenses, are left to the discretion of the managers, which makes them largely subject to their discretion and therefore constitutes a measure of accounting conservatism[24].

Non-current accruals *NCUACC* are measured by the difference between total accruals (net outcome - operating cash flow) as well as current accruals.

We will estimate the size of *NCUACC* over a period of 3 years, ranging from t-2 to t. To better facilitate the interpretation, we will multiply this value by (-1).Thus, positive values are synonymous with conservative accounting practices.

3.4 The control variables

Consistent with past studies such as Verdi[25], Biddle *et al*.[15] and Chen *et al*.[6] following control variables are applied for this study:

$MTB_{i,t}$ = we retain the Market ratio to book as the first measure of growth opportunities. It was measured by Denis[26] via the rapport between the market value and the accounting value of proper capitals (*Market to book ratio*).

$XCE_{i,t}$ = done by Biddle *et al*.[15] We will include the sales growth as an additional measure of growth opportunities. It was measured by the variation of the company turnover between the year t and t-1.

$SIZE_{i,t}$ = logarithm of the total accounting asset. The firm size equally represents an explicative factor of investment expenditure, since it can have an impact on the access to external capitals.

$DEBT_{i,t}$ = ratio total debt divided by the total asset. With reference to Myers[27] the financial shift can lead to under-investment caused by the over-indebtedness problem.

3.5 Model specification

To test our hypothesis on whether accounting information quality in year t affects investment decisions in year t+1, we estimate a model that connects inefficiency of investment with the various measures of the quality of accounting information and a set of control variables. We will estimate a logistic regression in order to take counts the binary nature of our dependent variable, which predicts the likelihood that a firm will belong to one of the two groups.

This specification considers simultaneously, but separately, the probability of on and under-investment. The model to be tested is as follows:

$$\begin{aligned} \text{Investlneff}_{i,t+1} =& \beta_0 + \beta_1 ACCOUNQUA_{i,t} \\ &+ \Sigma\beta_j CONTR_{jt} + \varepsilon_{i,t+1} \end{aligned} \quad (4)$$

Where:

(1) $\text{InvestIneff}_{i,t+1}$: Inefficiency of investment represents over or under-investment which is a binary variable that takes the value of 1(0) if the residuals of the model (1) are positive (negative), 0 (1) otherwise.

(2) $\text{ACCOUNQUA}_{i,t}$: the measurement of the quality of financial information, as described below.

(3) $\text{CONTR}_{i,t}$: different control variables, as defined previously.

4 Results

4.1 Descriptive analysis

Table 2 shows that Tunisian companies have a poor quality of their accounting results compared to other countries. Indeed, the average of their accruals is around (-0.0322), this level is lower than that detected by Francis *et al*.[18] in the American context (-0.0442). At the same time, it appears from Table 1 that Tunisian companies exhibit an average level NCUACC of (0.008), revealing that they practice low conservative accounting compared to the average value (0.01) detected by Xu *et al*.[19] on the Chinese market.

4.2 Multivariate analysis

Before moving to multivariate analysis, it is first important to evaluate the multicollinearity by using Variance Inflation Factor (VIF), and the results show that VIF values are also relatively small and there is no multicollinerity issue among variables (Table 3).

Table 4 presents the multivariate results in panels test-

Table 2 Descriptive statistics of variables

Variable	Average	Gap Type	Minimum	Maximum
QACC	-0.032	0.352	-0,511	2.987
CONSV	0.008	0.073	-0.244	-1.205
MTB	1.886	2.217	-0.431	14.566
XCE	0.418	0.755	-3.236	1.490
SIZE	16.566	0.998	16.258	22.314
DEBT	0.722	4.534	0.033	0.927

Note: QACC = measure of the quality of accruals, as estimated according to the model of Dechow and Dichev (2002); CONSV = measure of conservatism by means of non-current Accruals; MTB = market to book ratio (market value of equity compared to accounting value); XCE = Rate of sales growth of year t, measured by the variation of the firm's turnover between the year t and t-1; SIZE = logarithm of the total accounting assets of the firm; DEBT = total debts reported to the accounting value of the total asset

Table 3 Tolerance values and VIF without bias

	Tolerance	VIF
QACC	0.993	1.020
CONSV	0.991	1.009
MTB	0.981	1.007
XCE	0.972	1.022
SIZE	0.934	1.042
DEBT	0.993	1.004

Table 4 Results of the estimation of the relationship between the quality of accounting result and the probability of under-investment and over-investment

	Under-investment		Over-investment	
	QACC	CONSV	QACC	CONSV
ACCOUNQUL	0.341	0.351	-0.915	-1.419
	(2.26)**	-0.33	(-0.29)	(-0.41)
MTB	-0.656	-0.735	0.735	0.709
	(2.35)***	(-2.34)***	(2.51)***	(2.53)**
XCE	-0.67	-0.654	0.789	0.603
	(-1.82)***	(-1.75)*	(1.72)*	(1.57)*
SIZE	-5.489	5.769	-5.06	5.863
	(4.16)***	(4.31)***	(-4.21)***	(-3.73)***
DEBT	0.332	0.321	-0.009	-0.614
	-0.22	(-0.12)	(-0.03)	(-0.41)
Constant	-91.123	-91.56	94.861	93.312
	(-2.86)***	(-3.28)***	(4.00)***	(3.43)***
Log likelihood	-55.881	-53.635	-57.019	-54.361
LR test	25.73***	23.43***	23.37***	21.03***
Quality of Prediction	91.42%	90.24%	89.68%	91.45%
Specific Effect	Random	Random	Random	Random

Note: This table presents the results of estimates of panel logistic regression with random effects. The dependent variable is based on the unexplained level of investment. UNDINSVT = Firms classified among those which UNDINVEST = firms classified among those which underinvest; OVERINVST = firms classified among those which overinvest; QACC = measure of the quality of accruals, as estimated according to the model of Dechow and Dichev (2002); CONSV = measure of conservatism using non-current Acruals; MTB = market to book ratio which represents the market value of equity capital compared to the book value of equity capital; XCE = growth rate of sales in year t, measured by the variation of the firm turnover between year t and t-1; SIZE = logarithm of the company's total accounting assets; DEBT= ratio total debt divided by the total asset.
* Significance at the 10% levels; ** Significance at the 5% levels; *** Significance at the 1% levels.

ing the relationship between the quality of the accounting result and the probability of under and overinvestment. The Logit model applied to panel data can be estimated using a fixed or random effect. If the estimation of fixed effects is adopted, the constant is treated as an unobservable characteristic specific to firm i in correlation with the other variables in the model.

Since the dependent variable is binary and the specific effect must be eliminated, only companies that have changed status from one period to another are taken into account in the estimate, which implies the exclusion of observations which have not changed over time[22].

On the other hand, if the estimate adopted follows a random effect, the constant is considered as a non-observable random variable and not correlated with the other variables, which allows it to be integrated into the model[28]. So for these reasons, we opted to adopt the random effect model so as not to exclude observations that do not vary over time. Before interpreting our results, it is important to note that the prediction quality of our models is very strong (90%) and this, for the different specifications selected. The models also have very good overall significance, insofar as the likelihood ratio test (LR test) is significant at the 1% level.

It is possible to note in Table 4 that the quality of the accruals increases the probability of underinvestment, while it has no significant impact on the probability of overinvestment. Our results can, however, be explained by the contextual specificities of the Tunisian market as well as the behavior of the Tunisian investor. Thus, we can first argue that the low quality of financial information displayed on average by Tunisian companies may explain our results.

In fact, according to the descriptive statistics, Tunisian firms display on average a lower quality of their accruals in comparison to American or Chinese firms. A priori, this level of quality does not seem sufficient enough in the eyes of the Tunisian investor, to constitute a means making it possible to attenuate the levels of asymmetry of information with regard to the firm, to reduce its cost of capital. Then, we can invoke the behavioral dimension of the Tunisian investor in the explanation of our results. Indeed, the latter may not have enough confidence in the accuracy of the financial information conveyed through the accounting results, so that it cannot reduce the levels of information asymmetry towards the firm. On the contrary, for the Tunisian investor, publicly disclosed financial information would increase the levels of information asymmetry, since the latter does not consider such information as a reliable source of information and would have more confidence in information collected on its own and through private channels. In fact, Loukil and Yousfi 2012[29] recently noted that the Tunisian investor has no confidence in the public information disclosed by companies and would have more confidence in private information. The authors specifically found that only private information reduces the levels of information asymmetry on the Tunisian stock market. As for accounting conservatism, it remains to have no effect on the probability of over and under investment. Such a result is contradictory to that found by Xu *et al.*, (2012)[19] on the Chinese

market, but can be explained by the low conservative accounting practiced by Tunisian companies in comparison to Chinese companies.

Furthermore, the results tell us that neither the quality of the accruals nor the accounting conservatism have a significant effect on overinvestment decisions. We can explain our results by the fact that the low level of accruals displayed on average by Tunisian firms, does not allocate to financial information to take on a governance role, to reduce the agency costs associated with the control of managers and to improve the selection process investment projects. In other words, the role of governance granted to accounting conservatism is conditioned by a set of control mechanisms, which are lacking in the Tunisian context.

With regard to control variables, the results show that the MTB, Cash-Flow and liquid assets ratios increase (decrease) the probability of overinvestment (underinvestment). While the size of the firm decreases (increases) this probability. As for the debt ratio, this variable persists in having no significant effect on the probability of over and under investment. These different results are similar to those found by Biddle *et al*.[19]

5 Conclusion

This study focuses on the importance of the quality of accounting information quality on the investors' decisions making. Indeed, prior studies state that better financial information, contributes to making better investment decisions, as it reduces the level of information asymmetry. This finding can be explained by the fact that high-quality financial information facilitates the process of monitoring managers because, by reducing existing asymmetries, it inhibits opportunistic behavior, ensuring the rights of both shareholders and creditors. We are extending this current of research to the context of emerging market, particularly Tunisia, because of the importance of its challenges for businesses. In order to test our hypotheses, we have used two attributes of the quality of accounting results, namely: conditional conservatism and the quality of accruals.

The results of this study indicate that the quality of the accruals increases the likelihood of underinvestment. We attribute such a result to the lack of confidence that the Tunisian investor places in the accounting information vehicled through the accounting results. On the other hand, the results reveal that the quality of accruals has no effect in reducing the probability of overinvestment. The low level of accruals displayed on average by Tunisian firms could explain such a result.

Furthermore, we reveal that accounting conservatism has no significant effect and therefore cannot constitute a lever for action in improving the investment decisions of Tunisian companies. We can explain these results by the fact that the Tunisian firms practice a weak conservative accounting so that this level is not sufficient to allow this attribute of the result to assume an informational role allowing to attenuate the problems of asymmetry of information present between the firm and its capital providers.

Our findings suggest that countries, especially emerging markets, can benefit from improved financial information quality. Hence, these countries should take initiative to improve their market infrastructures such as adopting better accounting standards and encourage greater disclosure as well as enhancing the role of enforcement agencies. In addition to this, these findings could be of interest to the international organisations such as "World Bank" and "International Monetary Fund", whose missions are to aid countries with developing and transitional economy, and improve living conditions of their citizens. It is likely that more efficient investments will lead to better allocation of capital and resources and this may lead to higher social welfare. One limitation of this paper is that the relationship between accounting information quality and capital investment choice may differ with the different development stage of the industry. Maybe this issue is an important topic for future research.

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RESEARCH ARTICLE

Global mindset and the performance of Chinese firms

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Abstract: More and more Chinese firms are pursuing internationalization strategies. However, most of them have not managed to succeed in the global markets. One possible reason for such failure is their lack of a proper global mindset. This study investigates the following three issues: first, how global minded Chinese firms are; second, what the critical drivers for their global mindedness are; third, what strategic orientation these Chinese firms adopt when they pursue internationalization strategies and how their global mindedness is related to their performance. Results indicate that first, the current level of global mindedness of most Chinese firms are fairly low. Second, experience with foreign culture, leadership vision and firm capacity are important determinants of a firm's global mindedness. Third, global minded Chinese firms tend to pursue aggressive and risky internationalization strategies and they generally perform better than those with low level of global mindedness.

Keywords: global mindset, internationalization strategy, emerging markets, Chinese firms

1 Introduction

Global mindset or mindedness is a highly complex cognitive structure and ability[1] and can be defined as a way of approaching the world - a tendency to scan the environment from a global perspective[2]. It is the kind of attribute that would enhance exceptional functioning and performance of enterprises in a global environment. It could be equated to a behavioral attribute, like a point of view, standpoint, or philosophy[3], and is therefore, a very important mental attitude for a firm to succeed in an increasingly inter-connected global business world[4–6].

Research on global mindedness has been a growing field. Previous studies in this area primarily examines three issues: its impact and importance, dimensions or components, and its antecedents and development. One group of papers examines the importance of global mindedness in driving firms' strategic orientation[7], trust in leader and organizational commitment[6], and success in foreign markets[8–11]. For instance, Gupta and Govindarajan[9] believe creating global mindedness is one of the central ingredients required for a company in building its vital intelligence needed for global success. Gaffney *et al.*[7] indicates the critical role played by global mindedness in determining a firm's strategic orientation such as accelerated internationalization. Bowen and Inkpen[4] show that global mindset is a key success factor in leading change in an international context.

A second group examines the dimensions or components of global mindedness[1,6,11–15]. For example, Beechler and Javidan[12], along with Javidan and Bowen[14] and Bowen and Inkpen[14], suggest that global mindset consists of three core capitals, *e.g.*, intellectual, psychological and social while Story and Barbuto.[6] emphasize cultural intelligence and global business orientation as its components. Kedia and Mukherji[15] argue that two central dimensions of global mindedness is appropriate skills and knowledge.

Finally, a third group examines the antecedents or drivers and the development of global mindset[3,9,12,14,16,17]. Factors such as formal education[9,14], cross border teams and projects[9,12,15], foreign experience and expatriation[12,14–16], coaching[14,15] and a few others are identified as important in cultivating global mindedness in an organization. Paul[17] also emphasizes the role played by factors such as composition of top management, vision, processes and employee selection in developing global mindedness in companies.

However, the main limitation with the existing literature is that there is no empirically validated framework that cohesively connects the antecedents of global mindedness to its components and its consequences, *e.g.*, firm strategies and firm performance. Moreover, empirical

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work that exists is confined to narrow aspects of global mindedness and focuses primarily on specific industries from the developed world. For example, Arora *et al.*[3] determine whether managers in the US textile and apparel industries can be defined as "globally minded" and find that the US managers score higher on conceptualization than on contextualization of global mindedness. Moreover, there is very limited empirical investigation of global mindedness on firms from emerging markets, in particular from China. Given the fact that Chinese firms are becoming ever more important in the global value chain, and leading firms such as Huawei, Alibaba, Tencent, Lenovo and alike are rising rapidly as the potential leaders in their respective industries, this is a substantial research gap.

In this study, our purpose is to fill the above-mentioned research gap. By doing so, we attempt to advance the further development of the theories of internationalization and research on global mindedness. More specifically, we address the following questions: first, how can we develop a framework that connects the drivers and components of global mindedness to its consequences? What can such a framework tell us about the level and consequences of global mindedness of emerging market multinationals, such as those from China? Moreover, what is the current level of global mindedness of Chinese firms in general? We do so by first drawing up a framework from existing literature and then testing the framework on multinational firms of Chinese origin.

Relative to the literature on global mindedness and firm performance, we break new ground on several fronts. To the best of our knowledge, ours is the first study empirically validate the link between the drivers of global mindedness and its consequences. Ours is also the first study that examines this issue in the context of new-born multinationals from emerging economies, in particular China. Furthermore, our study provides the first quantitative audit on the current level of global mindedness of Chinese firms and develops insights on how Chinese firms should develop global mindedness.

The rest of the paper is organized as follows. The next section develops our theoretical framework and hypotheses. This is followed by an empirical test of our framework. The last section discusses our findings, draws implications and provides directions for future research.

2 Antecedents, components and consequences of global mindedness

Drawing upon extant literature, this section elaborates on the theoretical basis for this study and draws hypotheses to be empirically tested. Figure 1 lays out a conceptual framework for the role of global mindedness in the strategic orientation of a firm. Figure 1 shows that global mindedness is composed of three dimensions: global orientation, global knowledge and global skills. The antecedents of global mindedness are firm capacity, leadership vision, proactive attitude, and experience with foreign cultures. These factors are moderated by market characteristics and firm characteristics. Global mindedness affects strategic orientation whose suitability in the global markets is finally manifested in a firm's performance. As the context of our study is China, we develop our hypotheses from this perspective.

2.1 Theoretical rationale

The two dominant theories for firm internationalization are the eclectic paradigm advanced in the 1970 s[18], which explains the motives and patterns of international business activity based on the OLI framework, *e.g.*, ownership, location and internalization advantages, and the Uppsala model[19], which demonstrates the incremental and gradual process of firm internationalization. However, firms from emerging markets in particular from China have pursued accelerated internationalization when entering the overseas markets[20]. Neither eclectic paradigm nor the Uppsala model appears to be adequate in providing compelling explanations for this new form of internationalization which is much more rapid than the ones pursued by MNEs from developed countries[7,21,22]. Therefore, examining accelerated internationalization by Chinese firms can shed further light on important theoretical issues related to firm internationalization and hence significantly enrich the theoretical development in this area. Research also indicates that global mindedness of firms from emerging markets is one of the key drivers for their accelerated internationalization[7]. Thorough understanding of the concept of global mindedness holds the key to better understand this important phenomenon in international business research. That is the aim we set out to achieve in this paper.

2.2 Components of the global mindedness

Research in international business defines global mindedness in a number of ways. For instance, it is in a narrow sense represents a mental attitude that sees the world as one unit by using a standardized approach to products and markets[23]. It is further defined as the openness and ability to scan the world from a broad perspective and realize a firms interdependence on the global economy[7,15], and one that combines an openness to and awareness of diversity across cultures and markets with a propensity and ability to synthesize across this diversity[9]. It is also defined as a complex cognitive structure charac-

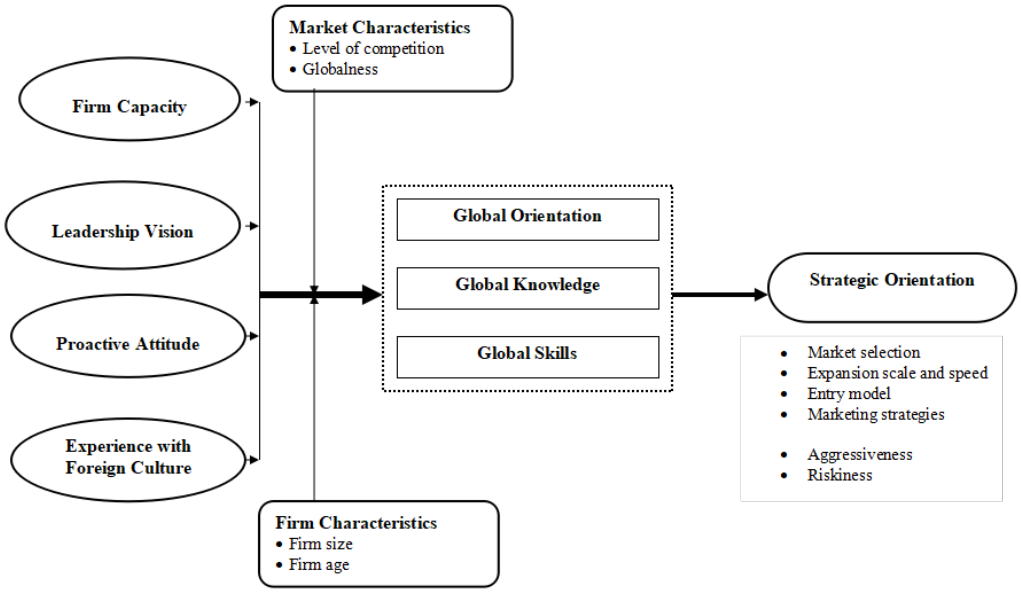

Figure 1 Conceptual framework for Chinese firms' global mindedness and their strategic orientation

terized by an opened to cultural and strategic realities and the cognitive ability to mediate and integrate across this complexity[1]. Rhinesmith[24] sees it as a certain curiosity about the world and a willingness to deal with broad global and foreign issues. Beechler and Javidan[12] define it as a mental structure incorporating knowledge, cognitive ability and psychological attributes dealing with complex global environments.

As seen from the discussion, it is clear that previous studies generally agree that global mindedness is a multidimensional construct but they fail to reach a consensus on its definition and components. However, the consistent theme emerging from all these definitions is that global mindset has both an *orientation* and an *ability* or *capability* component. In other words, it is first a mental orientation which sees the world as one interconnected marketplace and prompts the willingness to actively explore it, *e.g.*, openness[9,15], cultural perspective[1], conceptualization[23], and global business orientation[6]; and second an ability to manage such diverse complexity and markets, *e.g.*, ability to recognize complex interconnections[15], capability of integration, responsiveness and coordination[25], strategic perspective[1] and contexualization[23]. Furthermore, the *ability* or *capability* component can be further divided into *knowledge* and *skills*. The intellectual capital in Beechler and Javidan[12] is largely about knowledge[14], while psychological and social capitals primarily center on *skills*. That is to say, our conceptualization of global mindset is in spirit similar to that of Beechler and Javidan's[12] three-capital framework. Hence, in our study, global mindset consequently contains three elements, *i.e.*, global orientation, global knowledge and global skills. In sum, our conceptualization undertake the most comprehensive approach by integrating that of Nummela *et al.*[11], which equates global mindedness with global orientation and that of Kedia and Mukherji[15], which separates the *orientation* from the *ability*. At the same time, it echoes that of Levy *et al.*[1] and Beechler and Javidan[12] but adopt a more intuitive and simpler structure and logic.

2.3 Drivers for global mindedness

Research indicates that the view of top management is an important driver for global mindedness[17], and that knowledge and skills[15] are sufficient conditions that enhance and sustain global mindedness. Researchers also argue that management experience and market characteristics are key determinants of a firm's global mindedness[11]. Based on the literature and in-depth interviews with senior managers from selected Chinese firms, we contend that four factors are critical in driving the global mindedness of Chinese firms, *i.e.*, 1) firm capacity; 2) leadership vision; 3) proactive attitude; and 4) experience with foreign culture. We next elaborate on the rationale behind our argument.

2.3.1 Firm capacity

The resource-based view of firms emphasizes a firm's resource as the key determinant for its competitive advantage[26]. Firms that are more resourceful or capable are more likely to explore the global market compared to less capable ones. Therefore, firm capacity is believed to be

critical in developing its global mindedness[27]. In particular, research suggests that firms need to develop the capability of paradox management which is directly related to the cultivation of global mindedness[24]. Bartlett and Ghosal[28] echo this thought and suggest that firms need to establish what they called "transnational mentality" through the development of organizational capabilities.

In China, firms that are more capable or resourceful are the ones that dominate the domestic markets and have the ambition to go abroad to further exploit their competitive advantage. In fact, only those firms that have adequate firm capacity to manage their business possess the resources to venture out of the domestic market. It is also these firms that feel the most acute need to go global in order to acquire resources and capabilities to compete on a global level[7]. For Chinese firms that are much less competitive or resourceful, winning in the domestic market is a major challenge, given that most Chinese market sectors are overcrowded with major international companies. It is impossible for them even to contemplate the possibility of expanding into international markets. Therefore, we hypothesize the following:

Hypothesis 1: A Chinese firm's capacity is positively related to its global mindedness.

2.3.2 Leadership vision

Leadership vision affects an organization's culture, and determines the quality of strategy making[27,29,30]. Much research has shown that top managers play a pivotal role in affecting the internationalization of their firms, and particularly in the speed of entering international markets[31–33]. Paul[17] reports that leadership vision is the key determinant of a company's strategy and the driving force behind its global mindedness. The reason why global mindedness is often related to global leaders is that they set the company's strategic direction and influence the globalization of their businesses[34–36]. As a matter of fact, leadership's global perspective or vision is often viewed as an essential quality for global leaders[37,38].

For Chinese firms, leadership vision plays even a bigger role in driving their global mindedness for the following reasons: first, as discussed before, most Chinese firms at this stage of their development are still predominantly focusing on the domestic market. The large majority of their employees, if not all, have never experienced the outside world in a meaningful way. Unlike countries in the west where ordinary citizens have frequent interactions with the global world around them, China does not provide a fertile ground for its citizens to develop global awareness or knowledge. Therefore, unless the leader of a firm is strongly committed to international markets, the natural mindset of these firms is unsurprisingly, local.

Second, firms in China, despite two decades' of interactions with western firms and learning about market capitalism, still lack a formal western type of corporate governance structure. Many leading firms are not led by a management team per se but by a charismatic leader, who makes most of the critical decisions regarding a firm's future direction. This unique organizational culture is an unfortunate manifestation of China's long monarchic tradition which in many ways is still deeply intertwined with the cotemporary social and business institutions of the Chinese society. Hence, the leadership vision in Chinese firms plays a dominant role in determining their global mindedness. Therefore, we hypothesize the following:

Hypothesis 2: A Chinese firm's leadership vision is positively related to its global mindedness.

2.3.3 Proactive attitude

Curiosity about the world is believed to be an important factor in cultivating global mindedness[9]. Such curiosity is the natural outcome of a proactive attitude, because people with global mindsets continuously seek to be open to others by rethinking boundaries and changing their directions and behavior[24]. Proactiveness is also considered as a central component of global mindedness[11,33]. A proactive attitude towards exploring global markets also indicates a firm's global ambition and is an important driving force behind the global mindedness of a firm[27].

Going abroad is a risky endeavour for all firms, especially for Chinese firms whose global experience and knowledge is rather thin or non-existent. Moreover, in the context of Chinese national culture, *e.g.*, high risk avoidance[39], most of Chinese firms are by nature risk averse, even in the domestic markets. A number of leading Chinese firms have tried to expand into foreign markets, noticeably into the US and European markets in the early 90 s, but none of them managed to succeed. Those well-publicized, high-profile failures sent a stern warning to other Chinese firms about the prospects of going international. Chinese firms are fully aware that their knowledge of foreign markets is limited and that their competitiveness largely resides on their cost advantage. Therefore, for most firms, going abroad is a dream lies that in the far distant future. Only firms actively seeking global opportunities and have a genuine proactive attitude towards their growth and future development embark into global markets. Therefore, we hypothesize the following:

Hypothesis 3: A Chinese firm's proactive attitude is positively related to its global mindedness.

2.3.4 Experience with foreign culture

Exposure to diversity and novelty is critical in developing global mindedness[9,12,16]. Research shows that management's international experience is an important driver of global mindedness[8,10,11,14]. Foreign travel, transfer to foreign locations and training are effective in cultivating

the global mindedness of management personnel, and therefore lay a solid foundation for the establishment of global mindedness at the firm level[15]. Experience with foreign cultures enables a firm to gain confidence and knowledge about consumer behaviour in foreign markets. International travel experience broadens the mindset and changes peoples' attitudes toward globalization[?,36,40]. Moreover, experience with foreign cultures can also provide firms with vital business networks or connections.

Exposure to foreign cultures is the most direct way for Chinese firms to obtain genuine insights on foreign markets which are vastly different from their own. Familiarity and knowledge about foreign markets provide Chinese firms with marketing insights about overseas opportunities. The more experienced a Chinese firm is with foreign markets or cultures, the more likely it is in considering the possibility of expanding into foreign markets. Therefore, we hypothesize that:

Hypothesis 4: A Chinese firm's experience with foreign culture is positively related to its global mindedness.

2.3.5 Market characteristics

Industry forces or market characteristics are important drivers of a firm's global mindedness. Research shows that global mindedness increases with stronger global competition and the need to enter new and evolving markets[17]. Research also indicates that the globalization of markets and the volatility of domestic markets force firms to develop global mindedness[17].

We focus on two aspects of the domestic market, first, the level of market competition and second, the degree of market internationalization. A higher level of domestic market competition will force Chinese firms to consider the foreign markets as a viable alternative, especially those less developed, therefore less competitive markets. Therefore, we hypothesize the following:

Hypothesis 5: The level of competitive intensity of the domestic market is positively related to the global mindedness of a Chinese firm.

Another market characteristic that we contend is related to a firm's global mindedness is the degree of internationalization of a specific industry. For instance, the computer industry is a highly globalized one. Many Chinese firms have been part of this global value chain for decades as OEMs and managers from these firms have routinely interacted with the global business community. Through these business dealings, these firms naturally become more global minded. So, the degree of internationalization of a market directly affects a firm's global mindedness. Therefore, we hypothesize the following:

Hypothesis 6: The degree of internationalization of the overall market is positively related to a Chinese firm' global mindedness.

We next examine how global mindedness affects the strategic orientation of Chinese firms in their internationalization efforts. In particular, we investigate the relationship between the level of global mindedness of Chinese firms and their strategic choices, *e.g.*, market selection, scale and scope of expansion, entry mode, and international marketing strategies in entering the foreign markets.

2.4 Strategic orientation of Chinese firms in "Going Global"

Research in firms' strategic orientation indicates that firms have three problems to resolve: entrepreneurial, engineering, and administrative and the way they respond to these problems define their strategic orientation[42–44]. Firms with different strategic orientation vary in their willingness to take risks and priorities in resource allocation[44–46]. Those focusing on exploring the market opportunities, growth and risk taking, *i.e.*, prospectors tend to have an external orientation[47], while firms emphasizing cost control, stability and risk reduction, *i.e.*, defenders are more internally oriented[48]. These differences are likely to be reflected in the strategic choices a firm make in entering foreign markets[43].

Those Chinese firms going abroad are prospectors by nature. We further define their strategic orientation in the global context as the configuration of choices firms make to explore global opportunities. It can be considered as the organizational level manifestation of global mindset[7]. In this context, a firm's strategic orientation is reflected in the choices it makes in three aspects of internationalization: 1) country selection; 2) expansion scale and speed; and 3) entry mode. The first two dimensions reflect of aggressiveness while the third reflects riskiness of their internationalization strategies.

The first decision firms need to make when going abroad is to decide which countries to enter. Research shows that firms initially choose to enter countries that are geographically and culturally close and then progress to geographically and culturally distant countries. The choice of country thus shows how aggressive a firm is about its global markets as well as the long-term commitment a firm has to international markets. The second decision a firm makes when going international is the scale and speed of expansion. There are three dimensions to consider 1) the speed of entry; 2) the width of entry; and 3) the rate of expansion after entry. The scale and speed of expansion reveal the aggressiveness of a firms' international strategic orientation. We define a firm's international strategic orientation as *aggressive* if it focuses on the fastest, widest entry and the fastest expansion strategy after entry, *e.g.*, accelerated internationalization[7].

We would expect a global minded firm to be aggressive in its internationalization efforts. In the context of China, it is especially so as firms from emerging markets such as China are more likely to pursue a more accelerated and proactive internationalization than their counterparts from the developed countries due to strategic necessity[7,22,49]. Given these arguments, we hypothesize that:

Hypothesis 7: Global minded Chinese firms are more likely to pursue aggressive internationalization strategies.

A related decision a firm has to make when going international is the mode of entry. The four major entry modes a firm uses are: 1) exports; 2) joint venture and licences; 3) acquisitions and 4) greenfield ventures. The choice of entry mode reveals the risk-reward trade-off a firm is willing to make. Among the four different modes of entry, exports is the least risky and the least rewarding while greenfield ventures are the most risky and most rewarding. Since firms from emerging markets such as China are eager to make up their capability gap through internationalization, they are more likely to undertake risky strategies when going global[22,49]. Hence, we expect a global minded firm to be a risk taker in its internationalization effort.

Hence, we hypothesize that:

Hypothesis 8: Global minded Chinese firms are more likely to pursue riskier internationalization strategies.

In addition to the above decisions, a firm has to formulate its marketing strategy. There are many aspects of marketing strategy that needs to be worked out such as pursuing a low price and low quality strategy; product adaptation vs. standardization; and short vs. long product line. Successful firms in international markets eschew low quality, adapt products to local needs and expand the product line as they service more market segments. Due to the large number of possible strategic options, we do not develop individual hypothesis for each of these marketing strategy choices.

2.5 Performance implication

Are global minded firms also high performers? Will global mindedness yield superior returns to firms? These important questions have largely been under-investigated in existing literature. The limited number of studies that examine these issues adopts a conceptual approach[1,4]. Our study attempts to fill the void. Research indicates that global mindedness drives firms' international performance through the various dimensions of strategic orientation[11,33]. Global mindedness enables a firm to combine speed with accurate response, which is vital in the ever-changing and highly competitive global marketplace[9]. Global mindedness increases organizational effectiveness by making managers more competent and effective[15]. In the context of Chinese firms, we contend that the same positive relationship between global mindedness and firm performance will hold. Therefore, we hypothesize the following:

Hypothesis 9: A Chinese firm's global mindedness is positively related to its performance.

Figure 1 portrays our conceptual framework. The next section discusses the empirical analysis conducted to test these hypotheses.

3 Empirical analysis

This section discusses our sample, measures and empirical results.

3.1 Sample

Our purpose is to study the organizational level global mindedness of Chinese firms in general. So, we include firms of all sizes, *i.e.*, big, medium and small from diverse sectors. To do so, we collected our data from four top executive MBA programs in China. Two of them are at the leading universities based in Shanghai and Nanjing, the two cities which serve as the economic hubs of the most vibrant and well developed economic zone in China - the Yangzi delta. Shanghai, in particular, has been the economic centre and the engine of growth in China for years.

We also chose two major cities in the west, one is Chengdu and the other is Guilin. Both cities are the key economic hubs in their respective regions which represent the most populous area in China. Even though these regions are not as economically advanced as the east coast where Shanghai and Nanjing are located, they have been experiencing rapid growth in recent years and have gradually gained ascendance as the emerging economic centres. As the overall economy in China keeps expanding, more and more business activities have been established or transferred to these western regions for lower cost and more favourable government policies. We think making the sample as inclusive as possible will produce a less biased picture on the global mindedness of Chinese firms as a whole.

The attendants of these executive MBA programs are senior managers who have an intimate knowledge of their own companies and are able to provide an accurate picture of the current state of global mindedness of their respective enterprises. A questionnaire was developed on the basis of previous research and interviews. Questions were pre-tested with a sample of 20 senior managers from various industries in order to ensure that they were clear and captured the desired information. We sent out questionnaires to 401 EMBA students, and received 237

Table 1 Descriptive statistics and pearson correlations (N = 233)

Variables	Mean	Std D	1	2	3	4	5
Global Mindset	4.05	1.18	1				
Firm Capacity	4.09	1.57	0.53**	1			
Leadership Vision	4.40	1.67	0.55**	0.50**	1		
Proactive Attitude	5.07	1.19	0.32**	0.34**	0.46**	1	
Foreign Experience	3.18	1.47	0.65**	0.47**	0.42**	0.33**	1

Note: ** $p \leq 0.01$

usable responses yielding a response rate of 59%. We have only sampled respondents who have worked for their firms for over 3 years, therefore are knowledgeable about the management directions and orientation of their firms. Of the 237 responses we received, we dropped 5 due to incomplete answers, and ended up with 232 data points in our final analysis.

3.2 Measurement

We measure four sets of variables:

1) Dependent variables:

(a) Global mindedness (consisting of three components, *e.g.*, global orientation, global knowledge and global skills).

(b) Strategic orientation (market selection, expansion scale and speed, market entry and marketing strategies) reflecting the aggressiveness and riskiness of a firm's strategic orientation.

(c) Firm performance.

2) Independent variables, *i.e.*, firm capacity, leadership vision, proactive attitude and experience with foreign culture.

3) Market characteristics variables.

4) Control variables such as firm size and age.

All statement items follow 7-point Likert scales and multiple-item measures are used for all key constructs to enhance content coverage (see the questionnaire in the Appendix for details).

3.3 Dependent variables

This subsection describes the measurement of the dependent variables in our study.

3.3.1 Global mindedness

Global mindedness consists of three components, *i.e.*, global orientation, global knowledge and global skills, each of which is measured by three statements using a 7-point Likert scale.

3.3.2 Strategic orientation

Each strategic option is measured by one statement using a 7-point Likert scale. Aggressiveness is measured by combining the three "expansion scale and speed" variables, namely, by combining the three statements measuring the fastest entry, widest entry and fastest expansion after entry. Riskiness is measured in the same way by combining the three entry mode variables such as joint venture, Greenfield and acquisition using three 7-point Likert scaled statements.

3.3.3 Firm performance

We use subjective measures for firm performance and rely on executives' assessment. Three statements are used to measure firm performance.

3.4 Independent variables

There are four independent variables examined in this study, *i.e.*, firm capacity, leadership vision, proactive attitude and experience with foreign culture. Again, they are all measured by using a 7-point Likert scale for three statements.

3.5 Control variables

Variables related to the market characteristics, such as market competition and globalness of the market are measured in the same way as the variables above. We measure firm size using the total number of employees as commonly practiced, and firm age using the total numbers of years elapsed since a firm was established.

3.6 Results

We carry out the empirical analysis in multiple steps. First, we develop a correlation matrix to gain understanding of the relationships among key variables (Table 1). Second, we conduct a reliability test for the key constructs. Third, we perform the factor analysis on key constructs for global mindedness (Table 2). Fourth, we use multivariate regressions to analyze the relationship between our dependent variables and the independent variables (Table 3, Table 4, Table 5 and Table 6).

Table 2 Factor analysis of items for global mindset

Items	Components		
	Global Knowledge	Global Orientation	Global Skills
Q1	-0.037	**0.850**	0.218
Q2	0.001	**0.836**	0.118
Q3	-0.040	**0.832**	0.171
Q4	**0.882**	0.064	-0.162
Q5	**0.921**	-0.045	-0.073
Q6	**0.872**	-0.106	0.115
Q7	-0.163	0.358	**0.660**
Q8	-0.163	0.182	**0.843**
Q9	-0.052	0.080	**0.835**

Table 3 Level of global mindedness of Chinese firms and its distribution

Level	Global Mindedness		Global Orientation		Global Knowledge		Global Skills	
	%	Cum %	%	Cum %	%	Cum %	%	Cum %
1-2	4.3	4.3	27.5	27.5	17.2	17.2	7.7	7.7
2-3	15.0	19.3	18.0	45.5	11.6	28.8	20.6	28.3
3-4	32.6	51.9	15.9	61.4	13.3	42.1	24.1	52.4
4-5	28.8	80.7	16.7	78.1	17.1	59.2	19.7	72.1
5-6	12.9	93.6	12.0	90.1	24.1	83.3	16.3	88.4
6-7	6.4	100.0	9.9	100.0	16.7	100.0	11.6	100.0
Min	1.44		1		1		1	
Max	7		7		7		7	
Mean	4.05		3.61		4.37		4.16	

Table 1 summarizes the correlations among the explanatory variables. None of the correlations exceeds 0.5. Moreover, all of our multiple-item constructs had Cronbach alphas of 0.75 or higher, indicating strong internal consistency. As in Subramaniam and Venkatraman[50], we pair each construct and factor analyse all the key constructs. The indicators of each construct loads only onto their own construct for all the pairs of constructs. Therefore, convergent and discriminant validity requirements are satisfied.

3.6.1 Drivers of global mindedness

Table 2 shows the results of our factor analysis. It shows that our measures significantly load on to the components of global mindedness. We use multivariate nested regressions to test our main hypotheses. Table 3 presents the results for the multiple regression analyses testing the relationship between the four drivers for global mindedness and the construct itself. The high adjusted R^2 (0.53) shows a satisfactory fit of our model given the cross-sectional nature of the data. Firm capacity, leadership vision and foreign experience are consistently significant with the right sign across all models. Moreover, foreign experience and leadership vision have a much bigger effect size than firm capacity, demonstrating that these two factors play a bigger role in driving a firm's global mindedness. However, the variable proactive attitude turns out to be insignificant and has the wrong sign in two of the four models. This is counterintuitive. We suspect that those Chinese firms that considered themselves as proactive and risk taking probably only apply this attitude to the domestic market. Of the variables related to the market characteristics, globalness of the market is significant with the right sign, which makes intuitive sense, but market competition is not, indicating that the level of domestic market competition does not seem to affect a firm's level of global mindedness.

3.6.2 Strategic choices and orientation of Chinese firms

As to the strategic orientation of Chinese firms, we first run regressions of global mindedness on all strategic variables (see Table 4). Results indicate that in terms of market selection, global minded firms tend to choose the most developed markets and are least likely to choose geographically or culturally close markets. In terms of expansion scale and speed, global minded firms tend to pursue fastest entry, widest entry and fastest expansion after entry. Global minded Chinese firms therefore tend to pursue aggressive and risky international expansion strategies (see Table 5). None of the marketing variables turns out to be causally related to global mindedness.

3.6.3 Performance implication

Regarding the relationship between global mindedness and firm performance, based on our regression results, global mindedness turns out to be highly significant across all measures for firm performance (see Table 6). This indicates that Chinese firms that are global minded perform better in the marketplace. In sum, these results indicate that hypotheses 1, 2, 4, 6, 7, 8 and 9 are supported by our empirical findings. However, hypotheses 3 and 5 are rejected. Overall, our theoretical framework receive broad support from our empirical analysis.

4 Discussion

International business scholars have long conjectured that global mindedness is one of the key drivers of firm success in the global marketplace. No study has empirically determined the components of global mindedness and linked it to the performance of firms. In this paper, we develop a scale to measure global mindedness and test it out on a sample of Chinese firms. We then show how global mindedness affects the strategic orientation of firms and consequently their performance.

Our results show that experience with foreign culture, leadership vision and firm capacity are the key components that establish global mindedness in firms. Experience with foreign cultures clearly allows people to shed their ethno-centric views and helps them form a more global view. The finding that leadership vision is important in forming a firm's global mindedness resonates with

Table 4 Level of global mindedness by categories of firms (Value for global mindedness is in descending order)

Firm Size	GM	Firm Age	GM	Firm Type	GM	Industry	GM	Partner Type	GM	Foreign Employees	GM	Partner Success	GM
7	4.44	1	5.17	5	5.31	3	4.67	4	4.68	6	5.51	4	4.88
6	4.33	7	4.44	3	4.68	9	4.62	1	4.54	8	5.25	3	4.31
4	4.23	5	4.11	1	3.92	10	4.60	5	4.51	3	4.94	1	3.88
5	4.13	4	4.07	2	3.87	4	4.16	3	3.82	4	4.92	2	3.55
2	3.78	6	4.05	4	3.50	5	4.12	2	3.59	5	4.60		
3	3.78	2	4.04			1	4.06			7	4.31		
1	3.69	3	3.75			2	3.87			2	4.10		
						7	3.83			1	3.79		
						11	3.57			0	3.46		
						6	3.21						
						8	3.15						

Notes: Firm size(# of employees): 1 = less than 50; 2 = 50-100; 3 = 101-500; 4 = 501-1000; 5 = 1001-5000; 6 = 5001-10,000; 7 = 10,000 and above; Firm age(year): 1 = less than 1; 2 = 1-5; 3 = 6-10; 4 = 11-20; 5 = 21-30; 6 = 31-50; 7 = 51 and above; Firm type: 1 = private; 2 = state-owned; 3 = publicly listed; 4 = joint venture; 5 = foreign-owned; Industry: 1 = service; 2 = consumer package goods; 3 = petro and energy; 4 = consumer electronics; 5 = manufacturing and auto; 6 = construction; 7 = chemical; 8 = real estate; 9 = IT and pharmaceuticals; 10 = media; Partner type: 1 = export partner; 2 = suppliers and buyers; 3 = dealership; 4 = outsourcing; 5 = joint venture; # of foreign employees: 1 = zero; 2 = 1-5; 3 = 6-10; 4 = 11-20; 5 = 21-50; 6 = 51-100; 7 = 101-500; 8 = 500 and above; Partner success: 1 = complete failure; 2 = unsuccessful; 3 = successful; 4 = complete success

Table 5 Level of global mindedness by categories of firms (Value for global mindedness is in descending order)

Decision Type	GM	Inter Std	GM	Inter IPR	GM	Dom IPR	GM	Inter QA	GM	Dom QA	GM
2	4.20	1	4.2	1	4.81	1	4.14	1	4.77	1	4.06
1	3.98	0	3.9	0	3.96	0	4.01	0	3.93	0	4.03
3	3.97										

Notes: Decision type: 1 = centralized; 2 = decentralized; 3 = both; Inter Std: 1 = products being certified by international standards; 0 = none; Inter IPR: 1 = own international IPR; 0 = none; Dom IPR: 1 = own domestic IRP; 0 = none; InterQA: 1 = won international quality awards; 0 = none; DomQA: 1 = won domestic quality awards; 0 = none

Table 6 Multiple regression results — drivers for global mindedness (t-values are in the parenthesis)

Variables	Model 1	Model 2	Model 3	Model 4
Firm Capacity	0.17** (3.36)	0.19*** (3.49)	0.14* (2.26)	0.13* (2.16)
Leadership Vision	0.28** (4.90)	0.26** (4.60)	0.27** (4.62)	0.25** (4.32)
Proactive Attitude	-0.02 (-0.41)	-0.02 (-0.45)	0.003 (0.06)	0.01 (0.14)
Foreign Experience	0.45** (8.51)	0.43** (8.08)	0.47** (8.51)	0.45** (8.09)
Market Competition		-0.07 (-1.40)		-0.07 (-1.46)
Globalness of Market		0.11* (2.36)		0.14** (2.70)
Firm Size			0.02 (0.37)	0.04 (0.55)
Firm Age			0.06 (1.01)	0.08 (1.35)
Adj R^2	0.53	0.54	0.53	0.54
F	65.78	45.72	41.23	32.78
N	232	232	218	218

Note: ** $p \leq 0.01$; * $p \leq 0.05$

findings in the management literature which shows that unless leaders can champion a cause, there is little support from lower levels of management. The finding that firm capacity affects global mindedness lines up with findings from marketing and management literatures which find that firm resources are a key driver of many important strategic directions. The greater resources firms have, the higher its chances of success.

Our results on the links between global mindedness and the strategic orientation of firms suggest that global minded firms choose to enter geographically and culturally distant countries. This result seems to contradict the finding from research on psychic distance and market choice[51]. It may be due to the fact that most of global minded Chinese firms are asset-seeking firms instead of market-seeking ones[49]. They choose most developed markets seeking the critical strategic assets to quickly establish their core competencies. Globally minded firms also tend to choose either greenfield investment or acquisition, both of which are highly risky options. Furthermore, our results indicate that firms that are more global minded turn to choose the most competitive markets to enter and pursue both aggressive and risky overseas expansion strategies.

4.1 Global mindedness of Chinese firms

To perform an audit on the current level of global mindedness of Chinese firms, we simply take the average value on the variable Global Mindedness for the firms in our sample (Table 7, 8 and 9).We obtain the value of 4.05 (out of 7) for global mindedness, which is moderately low. However, a detailed analysis of the distribution of firms based on their level of global mindedness reveals a rather gloomy picture. The largest group of firms (*i.e.*, 32.6%) falls between 3 and 4 in their levels of global mindedness. Only 19.3% of firms have a value of global mindedness above 5. Also among the three components of global mindedness, Chinese firms score the lowest in Global Orientation, which is supposed to be the key component of global mindedness, *i.e.*, 3.61 compared to 4.37

Table 7 Multiple regression results − strategic orientation of global minded firms (t-values are in the parenthesis)

	Market Selection				Expansion Scale and Speed			Entry Mode			
	Geographically Close	Culturally Close	Most Developed	Least Developed	Fastest Entry	Widest Entry	Fastest Expansion	Export	Joint Venture	Greenfield	Acquisition
Global Mindedness	-0.13* (-2.00)	-0.18* (-2.72)	0.22** (3.43)	-0.06 (-0.90)	0.45** (7.63)	0.25** (3.88)	0.26** (4.05)	0.00 (0.04)	0.11 (1.60)	0.30** (4.74)	0.25** (3.88)
Adj R^2	0.01	0.03	0.04	-0.00	0.20	0.06	0.06	-0.00	0.01	0.09	0.06
F	3.98	7.38	11.79	0.81	58.23	15.02	16.41	0.00	2.57	22.50	15.03
N	232	232	232	232	232	232	232	232	232	232	232

Note: ** $p \leq 0.01$; * $p \leq 0.05$

and 4.16 for global knowledge and global skills, respectively. Moreover, the two largest groups of firms, *i.e.*, 27.5% and 18% (45.5% in total), fall between 1 and 2 and 2 and 3 value ranges in their global orientation. This indicates that despite their desire to go abroad, the level of global mindedness of most Chinese firms is far from being impressive.

Table 8 Multiple regression results − strategic orientation of global minded firms

	Marketing Strategies		
	Low Price and Low Quality	Product Adaptation	Long Product Line
Global Mindedness	0.10 (1.48)	0.09 (1.37)	0.08 (1.14)
Adj R^2	0.01	0.00	0.00
F	2.20	1.89	1.31
N	232	232	232

Note: ** $p \leq 0.01$; * $p \leq 0.05$

4.2 Implication

Our findings have implications for both firms and governments. Firms that aspire to be global players need to first ensure their key employees to have adequate exposure to foreign markets and cultures either through training or international assignments. This appears to be the most important driver for a firm's global mindedness. Firms also need to have a leader who has the vision to internationalize his or her firm and also fully commits himself or herself to this vision. Last but not least, firms also need to build vital firm capacity, such as product competitiveness and management skills, which is the foundation for the cultivation of global mindedness.

One implication of our findings is that Chinese firms with high global mindedness aggressively seek out risky markets. Yet risk is a double-edged sword because while taking risks may lead to success, it can also lead to failures. This may explain why Chinese firms have not achieved much success in the international marketplace. We think these firms should be more cautious in their "going global" efforts. They should explore less competitive markets first and gradually establish their competencies in managing diverse foreign markets. At the same time, they need to invest heavily in creating superior product innovation and marketing capacity, both of which are the basis for sustainable competitive advantage in the global market.

Given the fact that global mindedness is a vital component of a firm's competitiveness in the global marketplace, Chinese firms are not ready at all as far as conquering the global market is concerned, and they may be better off by first establishing a solid global mindset before contemplating the possibility of expanding into the foreign markets.

Based on these findings, governments in emergent markets, especially the Chinese government, should provide mechanisms through which Chinese firms can quickly learn to be global minded by gaining exposure to foreign markets. One such mechanism is the extensive international business training programs supported or sponsored by the government. These programs should be different from the traditional MBA programs which primarily focus on textbook knowledge. Instead, such programs should concentrate on developing Chinese firms' genuine global orientation through actually experiencing the foreign markets and cultures, in a manner similar to Samsung's Overseas Area Specialist Program.

4.3 Limitations and future research

The limitations of this study provide scope for future research (Table 10, 11 and 12). First, we only use cross sectional data, it would be interesting to examine how the level of global mindedness of Chinese firms evolve over time. To do so, we would need to collect longitudinal data. Second, we have only chosen firms randomly based on their sizes and industries. It would be important to analyze the level of global mindedness of top Chinese firms from various industries in a systematic way, namely, choose the top 20 or 50 firms from each major sector of the economy and measure their global mindedness.

Third, we should also examine the performance implications of being global minded in greater depth, namely, whether the most global minded Chinese firms perform better in both domestic and international markets. Last but not the least, global mindedness is proved to be a very

Table 9 Multiple regression results − strategic orientation of global minded firms (t-values are in the parenthesis)

Variables	Model 1 (Aggressiveness)	Model 2 (Aggressiveness)	Model 3 (Riskiness)	Model 4 (Riskiness)
Global Mindedness	0.39** (6.45)	0.38** (5.96)	0.33** (5.33)	0.35** (5.38)
Firm Size		0.17 (1.99)		0.07 (0.85)
Firm Age		-0.07 (-0.85)		-0.13 (-1.55)
Adj R^2	0.15	0.17	0.11	0.12
F	41.62	15.94	28.38	11.17
N	232	218	232	218

Note: ** $p \leq 0.01$; * $p \leq 0.05$

Table 10 Strategic orientation of Chinese firms − distribution

Level	Market Selection								Expansion Scale and Speed					
	Geographically Close		Culturally Close		Most Developed		Least Developed		Fastest Entry		Widest Entry		Fastest Expansion	
	%	Cum %	%	Cum %	%	Cum %	%	Cum %	%	Cum %	%	Cum %	%	Cum %
1	26.6	26.6	20.6	20.6	24.0	24.0	23.6	23.6	13.3	13.3	16.3	16.3	16.7	16.7
2	22.3	48.9	16.3	36.9	18.5	42.5	18.5	42.1	15.5	28.8	21.9	38.2	22.7	39.5
3	9.4	58.4	11.6	48.5	12.4	54.9	9.4	51.5	11.2	39.9	13.3	51.5	18.5	57.9
4	10.7	69.1	12.4	60.9	10.7	65.7	10.7	62.2	13.3	53.2	15.0	66.5	13.3	71.2
5	9.0	78.1	12.4	73.4	8.2	73.8	14.2	76.4	12.0	65.2	11.2	77.7	14.2	85.4
6	12.9	91.0	16.7	90.1	14.2	88.0	11.2	87.6	15.0	80.3	12.9	90.6	9.4	94.8
7	9.0	100.0	9.9	100.0	12.0	100.0	12.4	100.0	19.7	100.0	9.4	100.0	5.2	100.0
Min	1		1		1		1		1		1		1	
Max	7		7		7		7		7		7		7	
Mean	3.28		3.69		3.51		3.57		4.19		3.59		3.34	

Table 11 Strategic orientation of Chinese firms − distribution

Level	Entry Mode							
	Export		Joint Venture		Greenfield		Acquisition	
	%	Cum %	%	Cum %	%	Cum %	%	Cum %
1	16.7	16.7	7.7	7.7	18.0	18.0	14.2	14.2
2	13.7	30.5	9.9	17.6	18.9	36.9	13.3	27.5
3	15.0	45.5	10.7	28.3	18.0	54.9	11.2	38.6
4	19.7	65.2	15.0	43.3	19.7	74.7	22.3	60.9
5	14.2	79.4	17.2	60.5	9.4	84.1	13.3	74.2
6	11.2	90.6	27.5	88.0	10.3	94.4	17.6	91.8
7	9.4	100.0	12.0	100	5.6	100.0	8.2	100.0
Min	1		1		1		1	
Max	7		7		7		7	
Mean	3.72		4.54		3.37		3.93	

Table 12 Multiple regression results − performance implications (t-values are in the parenthesis)

Variables	Model (Outperform)	Model 2 (Profitability)	Model 3 (Overseas)	Model 4 (Overseas)
Global Mindedness	0.27** (4.00)	0.29** (4.43)	0.40** (6.21)	0.43** (6.83)
Firm Size	0.09 (1.07)	0.09 (1.05)	0.08 (0.93)	0.12 (1.41)
Firm Age	-0.03 (-0.30)	-0.14 (-1.68)	-0.01 (-0.14)	-0.07 (-0.93)
Adj R^2	0.08	0.09	0.16	0.19
F	6.86	8.13	15.04	18.45
N	218	218	218	218

Note: ** $p \leq 0.01$; * $p \leq 0.05$

important concept both theoretically and managerially. It would be essential for future study to further examine this notion in a cross cultural context, namely, whether the antecedents, components and performance implications of global mindedness hold stable across cultures, and if not, what drives these differences.

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Appendix

Questionnaire on "Global Mindedness and Strategic Orientation of Chinese Firms"

This is a study of Chinese firms' global mindset and their thoughts on international expansions. It is sponsored by Judge Business School, Cambridge University, UK. We would very much appreciate your participation. All responses will be kept anonymous. There is no right or wrong answer. Please provide us with your honest answers.

Section 1 Assessing Global Mindedness

Global orientation

1. We are making enormous efforts to understand foreign markets, such as customers, competitors and general market situations.
2. We are planning or making a large investment commitment internationally.
3. We are planning to create or creating a worldwide web of relationships with suppliers, distributors, peer firms and customers.

Global knowledge

1. We as a firm have a very good understanding of major foreign cultures.
2. We as a firm have sufficient knowledge on the socio-political, economic, financial and legal aspects of major foreign countries.
3. We as a firm have sufficient knowledge on the key foreign markets and our industry on a global scale.

Global skills

1. We as a firm have sufficient cultural sensitivity and are able to work with people from different cultures efficiently.
2. We have sufficient member of staff who are proficient in English and in the languages spoken in our key foreign markets.
3. We are skilful in communicating with people from overseas using modern information systems and telecommunications technologies.

Section 2 Critical drivers for the global mindedness of Chinese firms

Internal

Firm capacity

1. We are the market leader in this industry in China.
2. Our products are winning the competition against foreign products.
3. Our RandD capacity is world class.

Leadership vision

1. Our leadership always perceive the whole world as one big marketplace.
2. Our leadership considers foreign markets as important as domestic markets.
3. Our leadership believe that we have to expand into foreign markets in order to succeed in the future.

Proactive Attitude

1. Our firm is always willing to take risk to gain competitive advantage.
2. Our firm is always willing to make change whenever necessary.
3. Our firm is always very forward looking and focuses on future.
4. Our firm has a positive attitude towards international affairs.

Experiences with foreign culture

1. There are sufficient numbers of staff of our firm have studied or lived abroad.
2. There are sufficient numbers of staff of our firm have worked for MNEs or joint ventures.
3. There are sufficient numbers of staff of our firm have taken training in cross cultural or international management.

External

Market competition

1. Our market is extremely competitive.
2. Our domestic market is highly saturated.
3. There are numerous brands in our market.

Globalness of the market

1. There are many international players in our market.
2. Foreign firms can compete freely with domestic firms in our market.
3. The leading firms in our markets are all foreign ones.

Section 3 Strategic orientations of global minded Chinese firms

Market selection

1. When we expand, our company will first enter geographically nearby markets such as Russia, India, Philippine, Mongolia and some other Asian countries.
2. When we expand, our company will first enter culturally similar markets, such as Korea, Japan, Vietnam, and some South East Asian countries where Confucianism is endorsed.
3. When we expand, our company will first enter the most developed markets, such as the US and the Europe where the market potential is huge.
4. When we expand, our company will first enter least developed markets, such as Africa and some part of central Asia where competition is low.

Speed of expansion

5. Our company plans to expand into foreign markets as soon as possible.
6. When we expand, our company will try to enter as many markets as possible.
7. After we enter foreign markets, we will try to expand as fast as possible.

Mode of entry

8. When we expand, we will focus on exporting.
9. When we expand, we will find a foreign partner and set up a joint venture in the foreign market.
10. When we expand, we will go for wholly owned subsidiary.
11. When we expand, we will acquire an existing firm in the foreign country where we enter.

Product strategy

12. When we expand, we will pursue a cost leader (lower quality) strategy.
13. When we expand, we will adapt our products to suit the local needs.
14. When we expand, we will launch as wide a product line as possible.

Firm performance

1. Our firm has been consistently outperforming our competitors.
2. Our firm has been consistently profitable.
3. Our international expansion, if there is any, is highly successful.

Firm Information

Firm size (number of employees):
Firm age:
Number of foreign employees:
Firm type: 1) private; 2) state-owned; 3) publicly listed; 4) joint venture; 5) foreign owned
Industry type:
Decision style: 1) centralized; 2) decentralized; 3) both
Number of quality awards: 1) domestic; 2) international Number of international standards certificates

Number of IPR ownership: 1) domestic; 2) international Number of foreign partners
Partner type:
Success of partnership:

Personal Information

Job title:
Age:
Education:
Years of work experience:
English proficiency:
Overseas experiences:
Years in international venture:
Training in international management:
Lived in foreign countries:

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