Exploratory Research on Relationship between Entrepreneurial Orientation Dimensions and Business Performance and Growth of Fast and Slow Growing Small and Medium Enterprises in Bosnia and Herzegovina

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Abstract

This paper analyses environment in fast (gazelles) and slow growing companies (mices) using Entrepreneurial orientation (EO) dimensions and business performance in terms of sales and employee growth. The research is done using information on 178 small and medium enterprises (SMEs) in Bosnia and Herzegovina. We find that EO dimensions are more present in gazelles than in mices. We show a small to moderate significant correlation between EO dimensions and business performance of gazelles and mices. Also, any change in sales growth and employee growth might be associated with variability in innovation, risk taking and firm's age.

Keywords: SMEs, gazelles, mices, growth, business performance, entrepreneurial orientation, sales growth, employee growth

1. Introduction

Small and medium enterprises (SMEs) in general, they have more positive effect if they employ entrepreneurial orientation (Lee & Lim, 2009). SMEs drive a lot attention in the business world today and they can have different growth and development which reflects their capability of creating more or less jobs in the market. This paper addresses application of the EO dimensions in fast and slow growing companies – "gazelles and mices" (Birch, 1979) respectively, and its correlation with sales and employee growth. Why should we study these two types of SMEs? It is important because they contribute to economic development of a nation by creating most of jobs (Birch, 1979; Davidsson, P., L. Lindmark & C. Olofsson, 1994; 1995; 1996; 1997; 1997; OECD, 1987; Magnus & Johansson, 2010). Although these researches argue that gazelles create a "disproportionately" large number of new jobs comparing to mices, however, Neumark et al. (2008) have different view, arguing that mices have been classified as more jobs creators than it is reported. We believe that both of them are important and they are one of the most important pillars of economic growth of a state so we need to study them thoroughly.

Regarding the entrepreneurial orientation (EO), we can observe that for last three decades it has been studied using various measures for business performance of SMEs. A firm's upward growth could be related and connected to the entrepreneurship orientation (Brown et al., 2001; Stevenson & Jarillo, 1990). This relationship phenomenon of EO and firm's growth or performance is comprehensively researching from the theory (Covin & Slevin, 1991; Lumpkin & Dess, 1996) and practice (Covin & Slevin, 1989; Lumpkin & Dess, 2001; Wiklund & Shepherd, 2005). Despite this complete and extensive research there are some limitations and issues to be discussed. These are combined indicators, profitability and growth to associate with EO as sometimes contrary ones, and the developed latter concept of EO which is multidimensional (Moreno & Casillas, 2008). Entrepreneurial orientation has a positive effect towards a firm's performance and it helps the firm to grow (Wiklund & Shepherd, 2003). According to Kusumawardhani et al. (2009), he finds that SMEs with high level of EO have a better performance comparing to those who have a very low level of EO. However, on the other hand, Thomas and Mueller (2000) suggest that impact of EO to SMEs performance may differ from a country to a country. Depending to which part of the world a particular SME belongs it may happen that its adoption will vary. In this context Naldi et al. (2007) and Lee & Peterson (2000) argue that "national culture" affects the way

how the EO could be applied. Thus, each culture of a nation should be carefully observed in order to apply EO as a positive effect to SMEs performance. This model is widely used to measure and compare business performance of the companies and organizations.

Studying both gazelles and mices is important due to the fact that they create a positive economic growth in terms of reduction in unemployment rate. Economic development of Bosnia and Herzegovina is an imperative and its economy needs at first place "gazelles" to improve economic outlook in general. In this content, mices should not be neglected as well.

The objective of this study is to examine a presence of EO dimensions in Bosnian gazelles and mices, its correlation with their business performance and what might be associated with change in their business performance (sales growth and employee growth). We examine application of the theory of EO in gazelles and mices developed by Covin and Slevin (1989), and which was further studied and developed by (Lee et al., 2001; Wiklund & Shepherd, 2005; Sue et al., 2011; Zhang & Zhang, 2012; Kraus et al., 2012; Kraus, 2013).

In what follows, section 2 briefly reviews EO and the EO dimensions. The section 3 links such literature to specific empirical analysis using a certain methodology. In section 4 and 5, we discuss obtained empirical results and derive important conclusions, managerial implications and limitations of the research. Why is this problem important?

2. EO Overview

The first concept of entrepreneurial orientation started with Miller (1983) who has depicted a company as entrepreneurial if "one that engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations, beating competitors to the punch". This idea support Covin and Slevin (1989). This basic idea on entrepreneurial orientation is also adopted by others like Lee and Peterson (2000); Kreiser et al. (2002); Wiklund (1999), while Lumpkin and Dess (1996), have adapt the first idea from Miller (1983) and Covin and Slevin (1989) by adding two additional dimensions, i.e. autonomy and competitive aggressiveness. This concept is developed and discussed through decades and the following sections try to overview in a concise way recent work done by researchers on this topic.

2.1 Entrepreneurial Orientation Dimensions

Miller (1983) argues that SMEs in order to grow and be sustainable it should be oriented towards the "product market innovation", which is followed by being a first in the market and ready to undertake the "risky ventures". Covin and Slevin (1989/1991) and Lumpkin and Dess (1996) suggest that an SME should not have administrative procedures that will prevent growth of the SME. In other words, the SME should have a leader with creativity that encourages innovation and eventually to "beat competitors to the punch" (Miller, 1983). His work supports Chow (2006) arguing that these three dimensions are unique and ample to affect SMEs performance, while Lumpkin and Dess (1996) and Hughes and Morgan (2007) argue that these additional dimensions, autonomy and competitor aggressiveness, are necessary because SMEs grow through different development stages. In a very similar way, Kreiser et al. (2002) argue that more options to improve SME's performance, the better chance for its improvement as additional two dimensions will provide. Lumpkin et al. (2009) confirm that the autonomy plays a strategic role in "in entrepreneurial value creation" and thus it should not be neglected. In the research done by Lee and Lim (2009), the EO proves its importance for services business. They argued that the EO is imperative to all SMEs' owners due to its positive effect. However, Su et al. (2011) find that there is a positive relationship between EO and firms' performance only for established firms and on the contrary it has inverse U-shaped curvature towards new ventures.

Lee and Peterson (2000) study EO in the light of culture based on the Hofstede (1980) and Trompenaars (1994) cultural dimensions. They show that a culture in its nature is "low on power distance, weak in uncertainty avoidance and masculine, while a culture which is "individualistic, achievement oriented and universalistic" will generate efficient EO. This kind of EO will be attributed "by autonomy, proactiveness, competitive aggressiveness, innovativeness, and risk taking". Such powerful EO is able to pave the way to powerful entrepreneurship and globally recognized competitive advantage. As such, a brief overview of EO dimensions is followed by next subsections.

2.1.1 Innovativeness

Another term for innovation is innovativeness which, according to Lumpkin & Dess (1996), implies the propensity, creating new things, creativity in processes and experiments that leads to development of new products or services or even a new set of technological processes. Schumpeter (1942) gives a basis for this term arguing that innovative things combined together in the marketplace foster progress in particular society.

However, what might be a little confusing is that innovation or innovativeness is not the same as inventiveness. Inventiveness is a part of the general process of innovation and it is not enough per se for an SME to be innovative firm. It needed in SMEs but not enough for the SMEs prosperity and sustainability (Trevis et al., 2009).

Innovativeness in its essence implies an intension to back up new ideas and approaches, novel things, experiments, innovative procedures and steps starting with the built principles and technologies (Lumpkin and Dess, 1996). In the study done by Tajeddini (2010), a positive relationship between the Innovativeness and business performance in the services sector was found.

2.1.2 Proactiveness

What makes a firm proactive? The proactive firm is always first entrants into a new market and they are the first or pioneer in that particular business (Trevis et al., 2009). To be first in the market an organization needs to be "first-mover" in the market providing possible offerings to the market that is based on the needs of customers (Lumpkin & Dess, 1996). Once the firm has its advantage of being a "first-mover" then the firm has open the door to get advantage of this role by "skimming" pricing strategy possibly to be applied in such market (Zahra & Covin, 1995). Similarly, it can become a market controller in monitoring "distributing chains" and it may welcome to establish "brand recognition" very quickly (Wiklund & Shepherd, 2003).

2.1.3 Risk-Taking

Risk taking is related to the risk of turnover or to the risk of other financial analysis (Trevis et al., 2009) and anything that is huge action of let say, "borrowing" in capital and financial terms that might face the uncertainty could be regarded as risk taking (Baird & Thomas, 1985). The risk could be perceived as a company's intention to be involved in lofty risk projects and managerial options opposite to prudent actions (Miller, 1983).

One may pose a question how to define when an entrepreneur is risk taker? It is complex since entrepreneurs do perceive these things differently. Recent research has argued that from entrepreneurs' perspective, their actions are not risky (Simon, Houghton, & Aquino, 2000), and only action, to reduce the risk, is undertaken after planning and anticipating all circumstances (Bhide, 2000).

2.2 Entrepreneurial Orientation (EO) Development and Performance

As everything, the EO is evolving from time to time and applied in a different ways and to different organizations types.

The very beginning of EO started with Schumpeter (1942) who stresses out the importance of entrepreneurial orientation. The table 1 shows the EO chronological developments that lasted over three decades.

In regard of business performance that could be applied in the research of SME and EO related there are many measures that have been undertook. The "performance" itself might be measured in perceived financial terms, perceived non-financial and "archivical financials" or eventually to make any of possible combinations in the particular research (Rauch et al., 2009). In our study, similar to Kraus et al. (2012), we take perceived financial measures due to unavailability financial data of the companies in Bosnia and Herzegovina. Bamford et al. (2000, p. 255) consider this data as disadvantageous that may negatively affect results reliability. Others found that perceived financial rates are more less the same and in many cases.

Research undertaken by Lee and Lim (2009), show a positive relationships between EO and business performance of the services firms arguing that EO development among the SMEs' owners is a receipts for their growth and development.

EO Dimensions	Author(s)	Year	Change(s) in EO					
Innovativeness	Miller	1983						
Proactiveness								
Risk-taking								
Innovativeness	Covin and Slevin	1989/1	No					
Proactiveness		991						
Risk-taking								
Environmental turbulence, entrepreneurial style,	Naman and Slevin	1993	A normative model of fit					
organization structure, mission strategy								
Innovativeness	Lumpkin and Dess	1996	Two additional dimensions					
Proactiveness								
Risk-taking								
Autonomy								
Competitor aggressiveness								
Innovativeness	Wiklund	1999	No					
Proactiveness								
Risk-taking								
Innovativeness	Lee and Lim	2009	Supported Lumpkin and Dess					
Proactiveness								
Risk-taking								
Autonomy								
Competitor aggressiveness								
Strategic decision-making participativeness	Covin, Green, Slevin	2006	A new approach of EO					
strategy formation mode								
strategic learning from failure								
Innovativeness, diligence, conservatism,	Home	2011	A new approach of EO					
self-confidence								

Table 1. Summary of EO development

Source: Author's compilation.

Table 2. Summary of overviewed EO dimensions and relationship with business performance

Author	EO dimensions	EO	VS.	Business	
		perform	nance		
Miller (1983)	Innovativeness, Proactiveness, Risk-taking	Positiv	e		
Covin and Slevin (1988;1989)	Innovativeness, Proactiveness, Risk-taking	Positiv	e		
Slater and Narver (2000)	Environmental Turbulence, Entrepreneurial Style, Organization	Negati			
	Structure, Mission Strategy				
Lee et al (2001)	Innovativeness, Proactiveness, Risk-Taking	Positiv	e		
Wiklund, Shepherd (2005)	Innovativeness, Proactiveness, Risk-Taking	Positiv	e		
Covin, Green, Slevin (2006)	Strategic Decision-Making; Participativeness Strategy Formation	Positiv	e		
	Mode; Strategic Learning From Failure;				
Runyan et al (2008)	Innovativeness, Proactiveness, Risk-Taking; SBO	Positiv	e		
Lee and Lim (2009)	Innovativeness; Proactiveness; Risk-Taking; Autonomy;	Positive			
	Competitor Aggressiveness				
Li, Huang, Tsai	Innovativeness; Proactiveness; Risk-Taking; Autonomy;	Positiv	e		
	Competitor Aggressiveness				
Tajeddini (2010)	Innovativeness	Positiv	e		
Casillas & Moreno (2010)	Innovativeness; Proactiveness; Risk-Taking; Autonomy;	Positiv	e		
	Competitor Aggressiveness				
Su et al (2011)	Innovativeness, Proactiveness, Risk-Taking	Positiv	e		
Zhang and Zhang (2012)	Innovativeness, Proactiveness, Risk-Taking	Positiv	e		
Kraus et al (2012)	Innovativeness, Proactiveness, Risk-Taking	Positive			
Kraus (2013)	Innovativeness, Proactiveness, Risk-Taking	Positiv	e		

Note. Su et al (2011): It is positive for established firms and not for new ventures. Kraus et al (2012): Positive only for proactiveness, innovativeness and risk taking has shown no positive relationships. Source: Author's compilation.

Author	Performance/Growth Indicator(s)	Sample Size	Industry
Miller (1983)		-	
Covin and Slevin (1988;1989)	Operating profits; profit to sales ratio; cash flow from operations; and return on investment; Sales level, sales growth rate, cash flow, return on shareholder equity, gross profit margin, net profit from operations, profit to sales ratio, return on investment, and ability to fund business growth from profits.	80 (1988); 161 (1989)	Manufacturing and services firms
Slater and Narver (2000)	ROI	53	Manufacturing and services firms
Lee et al (2001)	Sales growth	137	Technological firms
Wiklund, Shepherd (2005)	Sales growth rate, employee growth, gross margin, profitability and cash flow	413	Manufacturing, services and retail firms
Covin, Green, Slevin (2006)	Sales growth	110	Manufacturing firms
Runyan et al (2008)	"Overall performance"	267	Manufacturing, services and retail firms and others
Lee and Lim (2009)	Overall firm's performance	137	Services firms
Li, Huang, Tsai	Efficiency (return on investment, return on equity, and return on assets), growth (sale growth, employee growth, and market share growth), and profit (return on sales, net profit margin, and gross profit margin).	165	Unknown
Tajeddini (2010)	Profit goal achievement; sales goal achievement; and ROI achievement	156	Services
Casillas & Moreno (2010)	Sales growth	449	Manufacturing, services
Su et al (2011)	ROA;ROS; sales; net profit; market share		
Zhang and	Perceived growth in market share; change in cash flow; sales growth;	130	Unknown
Zhang (2012)	earnings including the salary of the founder; sales; net worth.		
Kraus et al (2012)	Growth in a number of employees; growth in turnover;	164	Manufacturing, services
Kraus (2013)	Sales growth, employment growth, and market share	310	Services

Table 3. Summary of SMEs' business measures, sample size and industry

Note. Overall performance is "perceived and evaluated by the small business owner (and not performance as defined by return on sales - ROS or return on investments - ROI or any other specific measure whose very meaning may depend on EO and/or SBO)" (Runyan et al., 2008). Source: Author's compilation.

This table shows a relationship between EO dimensions and business performances (with different measurements) of SMEs with different business orientation (manufacturing, services, technology, retail/wholesale, and others). Most of them have been proved that EO dimensions had a positive relationship with business performance of firms. However, one of them has found a negative relationship between EO dimensions and business performance of firms (Slater & Narver, 2000).

3. Empirical Analysis

3.1 Data

In this research we have used a self-administered questionnaire to collect data based on Covin and Slevin (1989) model. Its original version has been translated into Bosnian language and then reversed back to English. There were no inconsistencies that may affect the original model so it is preceded with Bosnian version of questionnaire. So the model of EO dimensions from Covin and Slevin (1989) is adopted and modified for the research. The 7-Likert opposite scale has been used, where 1 is strongly disagree and 7 is strongly agree.

In order to identify gazelles and mices we use Davidsson and Henrekson (2002) applying annual sales growth of 5 or 10%, and Hölzl, W. (2009), seeing gazelles as companies whose annual employee growth are 10% with inconsistencies of 5%.

Stratified sampling has been used. From the database of SMEs provided by Federal Ministry for Entrepreneurship, Development and Turnover and Foreign Trade Chamber of Bosnia and Herzegovina, which

contain 16,480 SMEs, we randomly selected 5% (in total 824 SMEs). We received 205 responses and 27 were rejected due to our stratification strategy that SMEs were identified as either gazelles or mices, we end with 178 SMEs which corresponds to 21, 6%. So, the effective sample size was 178 split up into two stratums, gazelles (89) and mices (89).

4. Empirical Results

4.1 Factor Analysis

We use factor analysis to check whether the data are fully loaded and to measure construct validity and its multidimensionality (Nunnally, 1978, Kraus et al., 2012). All independent variables, the EO dimensions, were loaded to perform these measurements. Principal component analysis (PCA) is applied to identify a path or a few paths that could explain their variability as much as possible (Belle et al., 2004, p. 589). We apply orthogonal and Varimax method. Orthogonal (unrelated) rotation is rotating factors with keeping all variables independent. Varimax method is good to minimize dispersion of loaded items within factors so that a smaller numbers of loaded variables will be loaded in a very high manner (Field, 2005, pp. 635-637). To determine number of loading factors we used the Kaiser Criterion that is set out as eigenvalues>1 (Kaiser, 1960). Factor loadings results may depend on sample size. Sevens (1992) argues that a sample size larger than 100 is to be as appropriate to get acceptable results as of 0.52. Kaiser (1974) argues that any value greater than 0.5 is acceptable. The results have shown that we have three components and we maximized loadings on each variable of extracted factors while minimized loadings are on all other factors. Initial eigenvalues and extracted percentage of explained variances are the same, whereas factor 1 has higher value (42,039%) comparing to the rest two (17, 69% and 11, 55% respectively). After rotation of variables, the total % of explained variance was for factor 1 29, 79%, factor 2 29, 23% and 12, 26% of the factor 3 (See Table 4). Bertlett's test of sphericity applies control whether the PCA has a point to be set out and if p-value is less than 0.001. In our case it is significant (Sig=.000). The KMO measure was obtained as 0.801, with Chi-square of 638.035, (df=36), which is more than required (>0.5, Kaiser, 1974), and it has proved sampling adequacy.

Initial Eigenvalues			Extract	ion Sums of S	red Loadings	Rotation Sums of Squared Loadings					
Total	%	of	Cumulative	Total	%	of	Cumulativ	Total	%	of	Cumulative
Varianc		ce	%	Total	Variance		e %	Total	Variance		%
3.783	42.039		42.039	3.783	42.039		42.039	2.682	29.795		29.795
1.593	17.696		59.734	1.593	17.696		59.734	2.631	29.230		59.025
1.040	11.55		71.285	1.040	11.550		71.285	1.103	12.260		71.285
0.693	7.702		78.986								
0.563	6.253		85.240								
0.447	4.963		90.202								
0.400	4.446		94.648								
0.263	2.924		97.573								
0.218	2.427		100.000								
	Fotal 3.783 1.593 1.040 0.693 0.563 0.447 0.400 0.263 0.218	Initial E % Varian 3.783 42.039 1.593 17.696 1.040 11.55 0.693 7.702 0.563 6.253 0.447 4.963 0.400 4.446 0.263 2.924 0.218 2.427	Initial Eigenv Fotal % of Variance 3.783 42.039 1.593 17.696 1.040 11.55 0.693 7.702 0.563 6.253 0.447 4.963 0.263 2.924 0.218 2.427	Initial Eigenvalues Mode Of Cumulative Variance % 3.783 42.039 42.039 1.593 17.696 59.734 1.040 11.55 71.285 0.693 7.702 78.986 3.563 6.253 85.240 0.447 4.963 90.202 3.446 94.648 0.263 2.924 97.573 3.218 2.427 100.000	Initial Eigenvalues Extract Model of Cumulative Variance % Total 3.783 42.039 42.039 3.783 1.593 17.696 59.734 1.593 1.040 11.55 71.285 1.040 0.693 7.702 78.986 0.563 0.563 6.253 85.240 0.447 0.447 4.963 90.202 0.400 0.446 94.648 0.263 2.924 0.218 2.427 100.000 100.000	Initial Eigenvalues Extraction Sums of S Fotal % of Variance Cumulative % Total % Variance 3.783 42.039 3.783 42.039 3.783 42.039 1.593 17.696 59.734 1.593 17.696 1.040 11.55 71.285 1.040 11.550 0.693 7.702 78.986 0.263 6.253 85.240 0.447 4.963 90.202 0.400 4.446 94.648 0.263 2.924 97.573 0.218 2.427 100.000	Initial Eigenvalues Extraction Sums of Squar Fotal % of Variance Cumulative % Total % of Variance 3.783 42.039 42.039 3.783 42.039 1.593 17.696 59.734 1.593 17.696 1.040 11.55 71.285 1.040 11.550 0.693 7.702 78.986	Initial Eigenvalues Extraction Sums of Squared Loadings Fotal % of Variance Cumulative % Total % of Variance Cumulative e % 3.783 42.039 42.039 3.783 42.039 42.039 1.593 17.696 59.734 1.593 17.696 59.734 1.040 11.55 71.285 1.040 11.550 71.285 0.693 7.702 78.986 71.285 71.285 71.285 0.563 6.253 85.240 71.285 71.285 71.285 0.447 4.963 90.202 75.73 75.73 75.73 0.263 2.924 97.573 75.73 75.73 75.73	Initial Eigenvalues Extraction Sums of Squared Loadings Rotat Fotal % of Cumulative % of Cumulative 3.783 42.039 42.039 3.783 42.039 42.039 2.682 1.593 17.696 59.734 1.593 17.696 59.734 2.631 1.040 11.55 71.285 1.040 11.550 71.285 1.103 0.693 7.702 78.986 71.285 1.040 11.550 71.285 1.103 0.447 4.963 90.202 90.202 90.202 91.202 91.202 0.400 4.446 94.648 94.648 92.924 97.573 92.218 2.427 100.000	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

Table 4. Total variance explained for eigenvales, extraction and rotation loadings

The eigenvalues set (*eigenvalues*>1; Kaiser, 1960) shows the same results as Scree plot (Fig 1), meaning that the inflexion on the Scree plot confirmed extraction of 3 components.



Figure 1. Scree plot: the number of components

4.2 Data Reliability–Cronbach's Alpha

This research is built on the EO, defined and developed by Covin and Slevin (1989), and adopted as such; we may not go through the validity analysis for systematic errors (Lee & Lim, 2009). However, we still need to make sure for the survey designed that is consistently valid. In this regard we used the Cronbach's alpha values that measures internal consistency and internal reliability of the sample that is used, which will give us a relationship(s) between the tested items of the research. Hair et al. (1998/2006), Bagozzi & Yi (1988), Baker et al. (2002), Nunnally (1978) suggest a minimum value for the Cronbach's alpha to be accepted as 0.6-0.7. In this case Cronbach's alpha value is 0.806 which satisfies condition for its data reliability.

The result is moderate with its reliability of 0.806 and only 0.194 contains errors (Table 5), i.e. 80.6% of the test is reliable and 19.4% of it is unreliable. The loadings of variables were according to hypotheses that suppose to be tested. In this context there were in total 11 items loaded, 9 predictor variables and 2 criterion variables.

4.3 Control Variable

Regarding relationship between EO dimensions and performance, additional independent variable might be associated with firm's performance. This variable is called control variable. We use firm age to perform regression analysis that will confirm or reject its association with business performance along with EO dimensions of both gazelles and mices (H_{1d}).

4.4 Hypotheses

Testing hypotheses is built on the following:

H₀: Entrepreneurial orientation dimensions are less present in "gazelles" companies while more present in "mices" companies and EO dimensions have no a significant relationship with their business performance and growth in Bosnia and Herzegovina.

 H_1 . Entrepreneurial orientation dimensions are more present in "gazelles" companies while less present in "mices" companies and EO dimensions have a significant relationship with their business performance and growth in Bosnia and Herzegovina.

H_{1a}. Innovation is more present in "gazelles" while it is less present in "mices".

H_{1b}. Proactiveness is more present in "gazelles" while it is less present in "mices".

H_{1c}. Risk taking is more present in "gazelles" companies while it is less present in "mices".

 H_{1d} EO dimensions have a significant correlation and relationship with business performance and growth of gazelles and mices in Bosnia and Herzegovina.

Table 5 shows that overall EO dimensions are more present in gazelles than in mices. Presence of innovation in gazelles is 4.978 while in mices 4.270. Proactiveness is scored 5.596 comparing to mices 4.427. And risk taking score is also higher in gazelles than in mices (4.640 vs. 4.067). T-test (Table 6) shows its significance at all levels of (t=3,420, Sig=0.001; t=2,750, Sig=0.007) except for proactiveness (t=0.760; Sig=0.448). The score results of proactiveness in gazelles is higher comparing to mices' score, however, t-test has shown insignificant (p>0.05).

The highest score of EO dimensions in gazelles is for innovation, while the least one is for proactiveness. In mices firms, the highest score is from proactiveness too, while the poorest score is on risk taking dimension as well (Table 5).

Table 5. Comparison of means for gazenes and mices	Table 5.	Com	parison	of	means	for	gazelles	and	mices
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EO dimensions	SMEs	Ν	Mean	Std. Deviation	Std. Error Mean
NNOVATION	Gazelles	89	4.978	1.3398	.1420
INNOVATION	Mices	89	4.270 1.4203 .1506		.1506
DROACTIVENES	Gazelles	89	4.596	1.4438	.1530
PROACTIVENES	Mices	89	4.427	1.5142	.1605
DISK TAKING	Gazelles	89	4.640	1.0686	.1133
KISK TAKING	Mices	89	4.067	1.6501	.1749

							95% Confidence	e interval of the
							Difference	
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Innovation	Equal variances assumed	3.42	176	0.001	0.7079	0.207	0.2294	1.1163
	Equal variances not assumed	3.42	175.403	0.001	0.7079	0.207	0.2294	1.1163
Proactiveness	Equal variances assumed	0.76	176	0.448	0.1685	0.2218	-0.2691	0.6062
	Equal variances not assumed	0.76	175.602	0.448	0.1685	0.2218	-0.2691	0.6062
Dials Taking	Equal variances assumed	2.75	176	0.007	0.573	0.2084	0.1618	0.9843
Risk Taking	Equal variances	2.75	150.776	0.007	0.573	0.2084	0.1618	0.9843

Table 6. T-Test values results

To confirm the previous result and get decision rule (if p<0.05, reject H_0) on H0 and H_1 , we use the t-test. The t-values with its degree of freedom (df=176) for two EO dimensions are high for two predictors resulting in its significance, Sig=0.001; 0.007 respectively, (innovation, risk-taking) confirmed that H0 is rejected, confirming H_1 (H_{1a} and H_{1c}). Moreover, although the total score of mean for proactiveness is higher in comparison to one in mices, the t-test do not reject and H0b (p>0.05) and H_{1b} is not supported (Table 6).

Correlation matrix has shown the possible correlation between predicted and criterion variables. In this case predicted variables are innovation, proactiveness, risk taking while criterion variables (dependent) are sales and employee growth over last 3 years or less if a firm exists less than 3 years. Results are reported in the Table 7. Proactiveness, among the rest EO dimensions, has no positive correlation with sales growth (0.057) but not significant (p>0.05). The same is true for correlation between proactiveness and employee growth (0.061; p>0.05). Innovation has significantly positive correlation with sales growth (almost moderate correlation with 0.250, p<0.001) while its correlation with employee growth have also moderate correlation value of 0.296 and yet significant (p<0.001). Risk-taking has lower correlation coefficients with sales growth (0.203; p<0.007) and employee growth (0.228; p<0.002). So, H_{1d} is partially supported (innovation and risk taking have positive correlation with sales and employee growth).

		Sales Growth	Employee Growth	Innovation	Proactiveness	Risk Taking
Sales Growth	Pearson Correlation	1				
	Sig.(2-tailed)					
	Ν	178				
Employee Growth	Pearson Correlation	.756**	1			
	Sig.(2-tailed)	0.000				
	Ν	178	178			
Innovation	Pearson Correlation	.250**	.296**	1		
	Sig.(2-tailed)	0.001	0.000			
	Ν	178.000	178	178		
Proactiveness	Pearson Correlation	0.057	0.061	.471**	1	
	Sig.(2-tailed)	0.448	0.420	0.000		
	Ν	178	178	178	178	
Risk Taking	Pearson Correlation	.203**	.228**	.255**	.364**	1
	Sig.(2-tailed)	0.007	0.001	0.001	0.000	
	Ν	178	178	178	178	178

Table 7. Correlation matrix results

These results reject H_{0d} and support H_{1d} . Since we have partially confirmed hypotheses that we tested, we want to see how much of predictor variables could be explained in criterion variables. We use linear regression to create a combination that will fit the regression model. In this case we had 2 criterion variables, sales and employee growth and three predicted variables, innovation, proactiveness and risk-taking. Controlling variable is *firm age* of firms.

Criterion 1: Sales growth

Linear regression was used to examine whether EO dimensions (innovation, proactiveness, risk-taking) and together with control variables (firm type, firm age and firm size) significantly predict relationship with sales growth and employee growth rate over last three years. Two models were setup. In the first model we include innovation, proactiveness and risk-taking as independent variables. In the second model we add *firm age*. Firm age was added to second model.

The null hypothesis: $H_{0d} = \beta_1 = \beta_2 = \beta_3 = \beta_4$; EO dimensions do not have a significant relationship with business performance and growth of gazelles and mices in Bosnia and Herzegovina

Alternative hypotheses: H_{1d} : $\beta_j \neq 0$; for at least one of *j*, where j=1, 2, 3..., n; EO dimensions have a significant relationship with business performance and growth of gazelles and mices in Bosnia and Herzegovina.

First model (Table 8) made of predictor variables, innovation, proactiveness and risk taking we have got R^2 *change* of 0.096. So 9.6% variability has been counted by these EO dimensions. For *model 2*, along with EO dimensions, we added *firm age* as additional predictor variable, and results have shown that there is a slight increase in R^2 =0.136 with a change of 0.040 or 4% of its variability.

		D	A 1° / 1	р	G(1	г	c	4	Change	Statistics					
Model	R	K Saurana	Adjusted	К	Sta.	Error	01	the	R	Square	F	161	162	Sig.	F
		Square	Square		Estimate			change		change	ull	u12	Change		
1	.310 ^a	.096	.081		.4808				.096		6.176	3	174	.001	
2	.36 ^b	.136	.116		.4713				.040		8.027	1	173	.005	

Table 8. Regression model summary of results of 4 models: criterion 1 (sales growth)

Note. a. Predictors: (constant), risk taking, innovation, proactivenes.

b. Predictors: (constant), risk taking, innovation, proactivenes, firm age.

c. Dependent variable: sales growth.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.282	3	1.427	6.176	.001 ^b
	Residual	40.218	174	.231		
	Total	44.500	177			
2	Regression	6.066	4	1.516	6.826	.000°
	Residual	38.434	173	.222		
	Total	44.500	177			

Table 9. ANOVA results for criterion 1 sales growth

Note. a. Dependent variable: sales growth.

b. Predictors: (constant), risk taking, innovation, proactivenes.

c. Predictors: (constant), risk taking, innovation, proactivenes, firm age.

The ANOVA table (Table 9) results shown that the all variables in its aggregate for 2 models were significant predictors (independent variables along with control variable) of sales growth, whereas explaining 8.1% of the variation in the *model 1, F* (3, 174) = 6.176, p = .001. In the *model 2*, they explain 11.6% of their variability, *F* (4, 173) = 8.027, p = .005. These results imply rejection of the null hypothesis that says "EO dimensions do not have a significant relationship with business performance and growth of gazelles and mices in Bosnia and Herzegovina".

Results of linear regression models are shown in the table 11.

The following equation presents the general linear regression model:

$$Y_i = \beta_0 + \beta_1(X_{i1}) + \dots + \beta_n X_n + \varepsilon_i \tag{1}$$

where, Y_i is criterion variable (dependent variable), β_0 is constant where the Y axis is intercepted by regression line; β_1 and β_n are the coefficients of the slope for regression predictors; X_{i1} and X_n are the values of predictors values (independent variables) for some of i'th observation; ε_i is residual.

In this context we have *model 1*:

Sales growth =
$$\beta_0 + \beta_1$$
Innovation + β_2 Proactiveness + β_3 Risk taking + ε_i (2)

Model 2:

Sales growth =
$$\beta_0 + \beta_1$$
Innovation + β_2 Proactiveness + β_3 Risk taking + β_4 Firm age + ε_i (3)

In terms of contribution of each predictor variable as well as control variable that is examined in 2 models, it shows that in two models, innovation, risk taking and the firm age are significant. Only, EO proactiveness is not significant. So independent variables (innovation and risk-taking) along with control variable (firm age), make a significant contribution to the models and therefore they were significant predictors of sales growth (Table10).

These results imply rejection of the null hypothesis that says "EO dimensions do not have a significant relationship with business performance and growth of gazelles and mices in Bosnia and Herzegovina".

Table 10. Beta coefficients and t-statistics summary: criterion 1 (sales growth)

		Unstandardize	Unstandardized Coefficients		1	95% Confi for B	95% Confidence interval for B		
Model		В	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	
1	(Constant)	1.988	.154		12.901	.000	1.684	2.293	
	Innovation	.094	.029	.267	3.246	.001	.037	.151	
	Proactives	046	.029	136	-1.590	.114	103	.011	
	Risk Taking	.065	.028	.184	2.371	.019	.011	.120	
2	(Constant)	-10.817	4.522		-2.392	.018	-19.742	-1.891	
	Innovation	.099	.028	.281	3.488	.001	.043	.155	
	Proactives	051	.028	151	-1.804	.073	107	.005	
	Risk Taking	.065	.027	.184	2.411	.017	.012	.118	
	Firm Age	.006	.002	.201	2.833	.005	.002	.011	

Criterion 2: Employee growth

Linear regression models for criterion 2 – employee growth are:

Model 1:

Employee growth=
$$\beta_0 + \beta_1 Innovation + \beta_2 Proactiveness + \beta_3 Risk taking + \varepsilon_i$$
 (4)

Model 2:

Employee growth = $\beta_0 + \beta_1$ Innovation + β_2 Proactiveness + β_3 Risk taking + β_4 Firm age + ε_i (5)

Beta coefficients and t-statistics table (Table 10) show that prediction of criterion variable could be found in the model 1 and model 2. First model shows its significance in contribution of all three EO dimensions to employee growth. When we add control variable, the firm age, to EO dimensions, it does not significantly contribute to change in employee growth. On the contrary, other independent variables (innovation, proactiveness and risk-taking) show significance for variability in employee growth.

Results of the second criterion, employee growth, are shown in the table 11. Two models we develop and in the *first model* are the following predictor variables, innovation, proactiveness and risk taking. The R^2 (0.132), 13.2% of has been counted by these EO dimensions. For *model* 2 we add to EO dimensions the *firm age* as additional predictor variable, and results have shown that there is a little change in R^2 (0.145) of 0.013% (1, 3%).

The ANOVA (Table 12) results shown that overall 2 models were significant predictors of employee growth, whereas explaining 11.7% of the variance in the *model 1,F* (3, 174) = 8.849, p = .000. In the *model 2,* they explain 12.5% of their variability, F(4, 173) = 7.344, p = .000.

Table 11. Regression model	summary of results	s of 4 models:	criterion 2 (en	plovee growth)
	200000000000000000000000000000000000000			

		р	A	п	641	Emm	- 6	41	Change	Statistics					
Model	R	к с	Aujusteu	к	Siu.	EIIOI	01	the	R	Square	F	1.01	100	Sig.	F
		Square	Square	Estimate					change	-	change	dfl	df2	Change	
1	.364ª	.132	.117		1.057	1			.132		8.849	3	174	.000	
2	.381 ^b	.145	.125		1.052	3			.013		2.588	1	173	.109	

Note. a. Predictors: (constant), risk taking, innovation, proactivenes.

b. Predictors: (constant), risk taking, innovation, proactivenes, firm age.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.666	3	9.889	8.849	.001 ^b
	Residual	194.452	174	1.118		
	Total	224.118	177			
2	Regression	32.533	4	8.133	7.344	.000°
	Residual	191.585	173	1.107		
	Total	224.118	177			

Table 12. ANOVA results for criterion 2 employee growth

Note. a. Dependent variable: sales growth.

b. Predictors: (constant), risk taking, innovation, proactivenes.

c. Predictors: (constant), risk taking, innovation, proactivenes, firm age.

		Unstandardized Coefficients		Standardized Coefficients			95% Confidence	e interval for B
Model		В	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	.481	.339		1.419	.158	188	1.150
	Innovation	.255	.064	.322	3.996	.000	.129	.380
	Proactives	127	.064	166	-1.99	.048	252	001
	Risk Taking	.164	.061	.207	2.716	007	.045	.284
2	(Constant)	-15.754	10.096		-1.56	.121	35.682	4.174
	Innovation	.261	.064	.330	4.111	.000	.136	.387
	Proactives	133	.063	175	-2.10	.037	258	008
	Risk Taking	.164	.060	.207	2.723	.007	.045	.283
	Firm Age	.008	.005	.113	1.609	.109	002	.018

Tab	le 1	13.	Beta	coefficients and	l t-statistics	summary:	criterion 2	empl	loyee gro	owth)
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The table 13 shows coefficients of the two models of the *criterion 2* (employee growth) with their corresponding values of *t*. The two models with EO dimensions have contribution to variability in change of employee growth, while adding the control variable *firm age*, does not contribute to its change as it is shown in the *model 2*.

The following table (Table 14) reviews developed hypotheses and their outcomes.

1able 14. Hypotheses testing result	Table	14. H [•]	vpotheses	testing	result
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Hypotheses	Results
H1. Entrepreneurial orientation dimensions are more present in "gazelles" companies while less present in	Partially supported
"mices" companies and EO dimensions have a significant relationship with their business performance and	
growth in Bosnia and Herzegovina.	
H1a. Innovation is more present in "gazelles" while it is less present in "mices".	Supported
H1b. Proactiveness is more present in "gazelles" while it is less present in "mices".	Not supported
H1c. Risk taking is more present in "gazelles" companies while it is less present in "mices".	Supported
H1d. EO dimensions have a significant correlation and relationship with business performance and growth of	Supported
gazelles and mices in Bosnia and Herzegovina.	

5. Conclusion

The research on gazelles and mices (Birch, 1979) is done on EO theory framework developed by Covin and Slevin (1989). It analyses several hypotheses. First hypothesis states that "Entrepreneurial orientation dimensions are more present in "gazelles" companies while less present in "mices" companies and EO dimensions have a significant relationship with their business performance and growth in Bosnia and Herzegovina". Empirical results have shown that EO dimensions are more present in gazelles than in mices except proactivenes. This might be due to unwillingness of business owners and managers to take their moves ahead comparing to others. It is been proved that gazelles had more weight in terms of EO dimension comparing to mices (See Table 6). Correlation analysis shown significant low to moderate correlations between independent variables (innovation and risk taking) and dependent variables (sales growth and employee growth), while proactiveness did not show any correlation towards sales growth and employee growth. Similarly, in overall the "EO dimensions along with firms' age factor contribute to changes in sales and employee growth of both gazelles and mices" (Table 14).

In criterion 1, the sales growth, among predictor variables, only proactiveness has not been observed as significant in both models, while innovation and risk taking, accompanied with firm age, predicted variability and change in sales growth. In criterion 2, it was observed that EO dimensions had contributed to a change of employee growth. However, the firm age, has not bring any contribution in change of the employee growth.

Our results suggest that SMEs which want to have a significant business growth and develop faster (to become gazelles) they should incorporate innovation, proactiveness and risk taking. In addition, firm age of a SME gives more opportunity to achieve better business performance results. Meaning that, business owners and managers should look forward to be innovative, and when necessary risk-taking roles in the company.

Due to reluctance of the participants this research is lacking of a decent sample size (n=178). In addition, achieved data for dependent variables, are known as perceived financial data that cannot predict eventual

causality between dependent and independent variables. Also, "perceived financials", might be too subjective which also may reflect in the end results. Aforementioned limitations should be first task done for the same research. Also, we strongly suggest qualitative data that will support or reject objectives and hypotheses.

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