Towards Achieving Corporate Entrepreneurship Competencies of employees in Ghana: Background characteristics in Perspective

Abstract

Introduction: This study, sought to assess the effects of age, education, years of operation and gender on antecedents of corporate entrepreneurship (CE), self efficacy and desirability, and corporate entrepreneurship competencies of employees.
Methods: This is a quantitative cross-sectional study among 400 employees of Small and Medium-Sized Enterprises in the Sekondi-Takoradi Metropolis. Pretested questionnaires were used for the data collection. Independent samples t-test and one-way ANOVA were employed to analyse the data. Statistical significance was declared at $p<0.05$.
Results: There was a statistically significant difference in the views of male and female employees in terms of competitive intensity. There were statistically significant differences in employees' views regarding organisational factors. Also, there were statistically significant differences between the various levels of education with regard to employees self efficacy and desirability. Again, the results show that the highest level of education of employees has statistically significant effect on their corporate entrepreneurship competencies regarding innovativeness, proactiveness, personal competence, personal initiative and risk-taking ability. In terms of years of operation, there was a statistically significant differences in relation to environmental factors.
Conclusion: It is recommended to owners/managers of Small and Medium-Sized Enterprises and policy makers in the sector to ensure that policies which involve promotion of Small and Medium-Sized Enterprises and intrapreneurial competencies are properly implemented devoid of gender and age biases to enable larger proportion of the population get employed in the sector and also have the opportunity to acquire the needed intrapreneurial knowledge, skills and competencies.

Keywords: Antecedents; corporate entrepreneurship competencies; desirability;

Small and Medium-Sized Enterprises; self efficacy

1.0 Introduction

The survival and sustainability of Small and Medium Scale Enterprises (SMEs) amid increasing competitive pressure require that SMEs revitalise corporate entrepreneurship competencies of employees to improve and create new value and enhance the survival of these enterprises (Letsie 2013; Ma, Liu & Karri, 2016). While some enterprises seem to have little problems in identifying and exploiting opportunities, others experience severe difficulties that may harm their performance. However, it remains crucial for businesses to develop the entrepreneurial attitude of employees to facilitate corporate entrepreneurial conduct (Van Wyk & Boshoff 2004).

Corporate entrepreneurship is the concept of supporting employees to think and behave like entrepreneurs within the confines of an existing organisational structure. Within the SME sector, employees with the right vision and skills are usually encouraged to identify opportunities and develop ideas that lead to innovative new products, services, or even new lines of business. Corporate entrepreneurship is studied both at the organisational and individual levels. Corporate entrepreneurship

has become an increasingly important tool for practitioners to enhance the viability of SMEs and to foster innovation, proactiveness, initiative, and risk-taking on the part of employees within SMEs (Padi et al. 2022). According to Padi et al. (2022) Corporate entrepreneurial competencies refer to higher-level characteristics encompassing personality traits, skills, and knowledge, which can be seen as the total ability of the entrepreneur to perform a job successfully. That is, the ability to develop, organise and manage a business venture along with any of its risks. In this study, entrepreneurial competencies are limited to five components: proactiveness, personal competence, personal initiative, innovativeness, and risk-taking.

The development of CE competencies of employees and SMEs activities have significantly contributed to the economic development of both developed and developing countries (Covin & Slevin 2013; Padi et al 2022; Wolde 2014). They significantly reduce unemployment rates, create revenue for both the government and the populace, as well as serve as an avenue for innovation, hence is classified as a catalyst for economic growth (Adu-Darko 2017; Chen et al. 2017). In this vein, entrepreneurs have been described as innovators, risk-takers, and visionaries (Binnui & Cowling 2016; de Jong & Wennekers 2018).

One of the biggest challenges facing SMEs in most developing countries today is their inability to develop and nature CE competencies. The role of employees with significant levels of CE competencies as the key solution to the country's socio-economic problem cannot be understated as it is the most satisfying one, both in terms of financial gain and self-actualisation needs (Mokoena 1999; Vargas-Halabí Mora-Esquivel & Siles 2017). Unlocking possible CE competencies of SME employees' potential within all population groups is then one of the priorities in the work situation of various firms. For SMEs to cope with the challenges of the modern business environment, they must be able to improve on their existing practices and improve the CE competencies of their employees not to mention their background characteristics. (Mokoena 1999; Zarefard & Jeong 2019).

According to Roose (2018), the role of individuals' entrepreneurial behaviour and CE competencies within organisations has hardly been studied. Thus, most literature available is biased towards the organisational level (Abou-Moghli & Al-Abdallah 2018; Arunga 2017; Wambetiesther 2017; Yu & Ramanathan 2012) while individuals background characteristics are somewhat overlooked. Also, the few research works on SMEs in Ghana and other developing countries have rather looked at external issues such as access to credit, government support, and policies other than the effect of background characteristics of employees (Adu-Darko 2017; Afriyie 2019).

This study, therefore, sought to assess the effects of age, education, years of operation and gender on antecedents of CE, self efficacy and desirability, and CE competencies of employees. Findings from this study will be of immense benefit to Ghanaian society at large and the employees within the various SMEs.

The findings will also help in guiding SMEs to appreciate the need for all employees to develop, nature, and exhibit their CE competencies which among many benefits to the firm, would also help individual employees within to also start their own SME or work to improve existing products or services and or develop products or services.

1.1 Theoretical Underpinning

1.1.1 Human Capital Theory

Several studies that have investigated corporate entrepreneurship at the individual level have explored the potential of human capital in explaining this phenomenon (Guerrero & Pena-Legakue 2013; Turro Sol 2016), hence, resulting in several definitions of human capital. For instance, Joia (2000) refers to it as the sum of the expertise, and skills of employees within a given organisation, whereas Dakhli and De Clercq (2004) posit that it is the knowledge, skills, and expertise possessed by an employee of an organisation which has the distinct characteristics of being improved via work experience, and education. The commonality in these definitions is that knowledge, skills, and expertise are needed to have effective and efficient human capital. This led to the introduction of the human capital theory (HCT).

Becker (1964) propounded the human capital theory which suggests that the more human capital a person possesses, the higher the person's performance when completing tasks. Most studies that have investigated corporate entrepreneurship at the individual level have explored the potential of human capital in explaining this phenomenon (Baptiste 2014; Guerrero & Pena-Legazkue 2013; Wright & McMahan 2014), hence, resulting in several definitions of human capital. For instance, some researchers refer to it as the sum of the expertise, and skills of employees within a given organisation (Bassi & McMurrer 2016; Sweetland 2013). Others see it as the knowledge, skills, and expertise possessed by an employee of an organisation that has the distinct characteristics of being improved via work experience, and education (Becker 1964; Dess & Pickens 2017). According to Ventakaraman (as cited in Anthony, Perrewe & Kacmar 2014), the human capital of entrepreneurs consists of all the unique insights, skills, intellectual characteristics, and capacities; although the human capital of an individual has different levels at which it can be transferred.

One of the assumptions of the theory is that human capital constitutes a fundamental organisational resource as it is the most important organisational capital necessary for development (Fugar, Ashiboe-Mensah & Adinyira 2013). Generally, the argument of the theory suggests that firms with high levels of human capital tend to develop as a resultant effect of higher education, and vast personal experience (Wright & McMahan 2014). This means, the higher the level of education and experience of an employee, all other things being equal, the higher his or her level of performance or productivity. For this reason, human capital has been recognised as being essential for fostering the competitive advantage of firms in today's robust marketing environment (Marimuthu et al. 2017). Concerning CE competencies of employees, the theory places more emphasis on education. It is seen as the most significant factor that can help boost employees' CE competencies (Byars & Rue 2018).

Basically, the underlying assumption for HCT is that individuals acquire knowledge and skills through education and training, and that constitutes human capital. The argument of HCT is relevant to the current study from the perspective that for employees within the various SMEs to adapt corporate entrepreneurship competencies, they would need to have the requisite knowledge, skill, and expertise to be innovative, proactive, and more receptive to risk-taking (Denisi & Griffin 2018; Fisher, Schoenfeldt & Shaw 2014). The theory provides a useful lens through which

antecedents of corporate entrepreneurship can better be understood as it highlights the wide variations in the educational attainment and professional experience of employees who may potentially develop entrepreneurial behaviours within their organisation.

This theory is relevant to the current study from the perspective that for employees to adopt corporate entrepreneurship, they would need to have the requisite knowledge, skill, and expertise to be innovative, proactive, and more receptive to risk-taking. The HCT provides a useful lens through which antecedents of corporate entrepreneurship can better be understood as it highlights the wide variations in the educational attainment and professional experience of employees who may potentially develop entrepreneurial behaviours within their organisation. Moreover, the use of HCT in the present study is related to the objective that looks at assessing the effects of level of education and experience on antecedents of CE, self efficacyand desirability, and CE competencies of employees. Educational attainment and years of experience are important controls of CE that also form a significant constituent of human capital. Therefore, applying the theory to this study provides the right indicators for assessing and measuring controls of CE (Beardwell & Holden 2017). Also, the recognition of human capital (knowledge, skills, and expertise) explains what is meant by employees' competencies which is a key variable in the current study. This study, therefore, adopts the human capital theory to explain that the more employees within the various SMEs are educated and experienced, the better the management of challenges and higher levels of growth. Also, the higher they acquire the requisite CE knowledge, skills, and competencies.

1.1.2 Resource-based View

The second theory underlying the argument of the study is the Resource-based View (RBV). This theory has been widely used in existing literature and discourse of entrepreneurship to gain a deeper, and broader understanding of corporate entrepreneurship (Castrogiovanni, Urbano & Loras 2011; Turro Sol 2016). Furthermore, RBV is generally acknowledged as one of the significant theories that describe and explain organisational relationships concerning the dynamics of organisational and environmental factors and their association with performance (Barney 1991; Barney, Ketchen Jr. & Wright 2011). According to Ashrafi, Magnan, Adams and Walker (2020), RBV became more profound in entrepreneurship literature as a result of the argument postulated by Barney (1991). Barney posits that a firm's resources that are valuable, rare, imperfectly imitable, and non-substitutable are critical for sustained competitive advantage.

Furthermore, it is worthy of note that, a fundamental assumption of RBV is that, the rationale for any business strategy is to potentially enhance the value of a firm's resources through meaningful interventions (Tan 2014). The resource endowments may include the human, financial, material, and capital resources that are vital for gaining the requisite knowledge and skills, as well as the necessary expertise for employees to become innovative, proactive, and engaged in risk-taking needed for the development of CE competencies. The theory contends that the possession of strategic resources provides a firm with a golden opportunity to develop competitive advantages over its rivals (Barney 1991; Barney & Clark 2017; Wernerfelt 1984). These competitive advantages in turn can help the firm enjoy strong profits.

The availability of these resources as described by RBV is a reflection of management support, work discretion/autonomy, rewards/reinforcement, time/ resource availability, and organisational boundaries (Kuratko, Hornsby & Covin 2014; Scheepers, Hough & Bloom 2008) which are important antecedents of corporate entrepreneurship. For instance, financial and non-financial resources are imperative for sustaining entrepreneurial activities and behaviours initiated within an organisation (Bagheri 2017).

Methods

2.1. Study area

Sekondi-Takoradi Metropolis (STM) in Ghana's Western Region was the study region. The Metropolis, which was formerly known as Shama Ahanta East Metropolis (SAEM) and has Sekondi as its administrative seat, is located in the south-eastern section of the Western Region, from the Ghana Statistical Service (GSS, 2014). It is bordered by the municipalities of Ahanta West, Shama, and Komenda-Edina-Eguafo-Abrem. It has a population of 404,041 people and is located on the coast around 200 kilometers west of Accra (GSS, 2014). Sekondi-Takoradi Metropolis urban area accounts for around 32% of the total land area. From GSS (2014), port and fishing are the two most important economic activities in the metropolis. This is Ghana's third-largest industrial and commercial centre. It has a sizable manufacturing industry (food processing, cement, household utilities, cocoa processing, wood processing and metal fabrication). The presence of numerous types of SMEs in the area has resulted in significant growth in the production and consumption of locally produced items. This is a clear sign that improving the corporate entrepreneurship competencies of personnel in SMEs in the area will have a major influence on firm performance and national revenue.

2.2. Study design and Measures

This study forms part of a large study that sought to assess the antecedents of corporate entrepreneurship and competencies of employees in SMEs in Ghana. For this particular study, the section on the effects of controlling variables on antecedents of corporate entrepreneurship, self efficacy and desirability, and corporate entrepreneurship competencies of employees was used. Specifically, cross-sectional data from employees were collected using pretested and validated questionnaires.

2.3. Study population and sampling

The study population comprised SMEs recognised by the Ghana Enterprises Agency (GEA) and Association of Ghana Industries (AGI) in the Metropolis. All employees of SMEs in STM formed the study population. Current records show that there are 1,592 registered and active SMEs in the Metropolis (GSS, 2020). Approximately, a sample size of 400 respondents within SMEs in the Metropolis was used for the study. The sample size used was based on Slovin’s (as cited in Gravetter & Forzano, 2018) recommended formula. This formula was used because it has been tested and used for most surveys and case studies (Gravetter & Forzano, 2018; Zikmund, 2018).

2.4. Data Collection Procedures

The data collection lasted a period of one month. The questionnaires were self-administered questionnaire. The respondents were given 30 minutes to complete the questionnaire. Prior to the administration of the instruments, informal familiarisation visits were made to the various SMEs selected and the office of Ghana Enterprise Agency (GEA). The questionnaires were administered by the researcher personally to the respondents with the support of four field assistants. These field assistants were principal research assistants of Takoradi Technical University, and as a result, have adequate experience regarding the data collection process. The field assistants were given training and orientation, which made it easier for them to administer the questionnaires. The training programme included explaining the objectives of the study, how to identify and approach respondents and data management and ethical issues.

2.5. Data analyses

Various steps were followed to analyse the data. First, the questionnaires were checked for completeness. Afterwards, they were coded and keyed into Statistical Package for the Social Sciences (SPSS) version 25. After the entry and data management, descriptive statistics (frequencies and percentages) were used to describe the sample. Afterwards, the independent samples t-test and one-way ANOVA were employed. The independent samples t-test was used to analyse the data in order to determine if gender has any significant effect on the study variables. In relation to age, level of education and years in operation, the data was analysed using the one-way ANOVA. This statistical tool is used to find out differences between independent groups such that the groups are more than two categories where the distribution is normal with numerically constructed dependent variable. In all the analyses statistical significance was declared at $p<0.05$.

3.0 Results and Discussion

The study collected quantitative data from the employees of the firms. Since the distribution was approximately normal, the independent sample t-test and one-way analysis of variance (One-way ANOVA) were used to analyse the quantitative data. The independent samples t-test was used to analyse the data in order to determine if gender has any significant effect on the study variables. In relation to age, level of education, and years in operation (experience), the data were analysed using the one-way ANOVA. Independent sample t-test is used for variables with two categories while One-way ANOVA is used for variables with more than two categories.

3.1. Background characteristics of respondents

The socio-demographic variables considered in the study were age, educational level, years in business and gender. It was found as contained the majority of the respondents (63.0%) were males while 37.0 percent were females. More of the employees' (49.8%) highest level of education was at the secondary level. However, 31.0 percent of the employees' highest level of education was at the tertiary level. More of the employees (48.8%) have been working in the SME sector for less than six (6) years (Table 1).

Table 1: Socio-demographic characteristics of respondents

Variable	Frequency	Percentage
Age of respondents(years)		
18 – 24 years	95	23.8
24 - 30 years	160	40.0
31 - 37 years	67	16.8
38 - 44 years	48	12.0
45 years and above	30	7.4
Educational level		
No formal education	16	4.0
Basic	61	15.2
Secondary	199	49.8
Tertiary	124	31.0
Number of years in business		
Less than 6 years	195	48.8
6 - 10 years	70	17.5
11 - 15 years	50	12.5
Over 15 years	85	21.2
Gender		
Male	252	63.0
Female	148	37.0
Total	**400**	**100.0**

3.2 Effect of Gender on Employees' Views Regarding Antecedents of CE, self efficacy and Desirability

The results in Table 2 shows that there were no statistically significant differences between male and female employees of SMEs with regard to their views on organisational structure ($t = 1.218$, $df = 398$, $p = .224$), management support ($t = .663$, $df = 398$, $p = .508$), resource availability ($t = -.480$, $df = 398$, $p = .631$), and reward and motivation ($t = .869$, $df = 398$, $p = .385$). This shows that gender of the employees has no effect on their views regarding organisational factors ($t = .710$, $df = 398$, $p = .478$). This shows that the operational attributes, processes or conditions within the various SMEs are positively perceived by both male and female employees.

Table 2: Effect of Gender on Employees' Views Regarding Antecedents of CE, self efficacy and Desirability

Variables	Gender	N	Mean	Std. Dev.	t-value	p-value	η^2
Organisational structure	*Male*	*252*	*3.749*	*.807*	*1.218*	*.224*	
	Female	*148*	*3.646*	*.815*			
Management support	*Male*	*252*	*3.763*	*.898*	*.663*	*.508*	
	Female	*148*	*3.694*	*.904*			
Resource availability	*Male*	*252*	*3.671*	*.914*	*-.480*	*.631*	
	Female	*148*	*3.716*	*.918*			
Reward and motivation	*Male*	*252*	*3.664*	*.890*	*.869*	*.385*	
	Female	*148*	*3.572*	*.914*			

Organisational factors	Male	252	3.712	.738	.710	.478	
	Female	148	3.657	.746			
Competitive intensity	*Male*	*252*	*4.108*	*.914*	*2.175*	*.023*	*.012*
	Female	*148*	*3.894*	*.908*			
Technology changes	*Male*	*252*	*3.688*	*.956*	*.503*	*.615*	
	Female	*148*	*3.637*	*.978*			
Market dynamics	*Male*	*252*	*3.741*	*.915*	*1.752*	*.080*	
	Female	*148*	*3.543*	*.903*			
Environmental factors	Male	252	3.846	.766	1.945	.053	
	Female	148	3.691	.772			

Source: Field Data, 2021 df = 398 (N = 400)

Where η^2 = Eta Square, and *Std. Dev. = Standard Deviation*

In relation to environmental factors, the results from Table 2 show that there were no statistically significant differences between the male and female employees with regard to their views on technology changes (t = .503, df = 398, p = .615) and market dynamics (t = 1.752, df = 398, p = .080).

However, in the case of competitive intensity (t = 2.175, df = 398, p = .023), there was a statistically significant difference in the views of male (Mean = 4.108, Std. Dev. = .914) and female (Mean = 3.894, Std. Dev. = .908) employees. Overall, there was no statistically significant difference in the views of the employees with regard to environmental factors (t = 1.945, df = 398, p = .053). This means the external business environment that affects the various SMEs is not affected by the gender of the employees.

Generally, the results show that employees' views on the various antecedents of corporate entrepreneurship are not affected by their gender. Most of the employees of the various SMEs were of the view that in their respective firms, equal opportunities are given to both male and female employees. Employees are not discriminated against based on gender. Both of them are exposed to the same operational attributes, processes, or conditions within the firms, and also the external business environment that affects the firms are felt by all. The findings are in line with that of Zaman (2013), Wennekers (2017), and Afriyie (2019), who all state that, males are more likely to perceive the various antecedents of corporate entrepreneurship positively than females, especially in patriarch societies where the proportion of male employees in the formal labour force is higher than that of females.

3.3 Effect of Gender on Employees' Corporate Entrepreneurship Competencies

The study further examined the effect of gender on employees' views regarding self efficacy, perceived desirability, and the corporate entrepreneurship competencies of employees. The results are presented in Table 3. As indicated in the table, there were no statistically significant differences in the views of the employees regarding their self efficacy(t = -.501, df = 398, p = .617) and desirability (t = -.332, df = 398, p = .740). Also, there was no statistically significant gender difference in the corporate entrepreneurship competencies of the employees (t = -.770, df = 398, p = .442). However, female employees are able to exhibit a high level of corporate entrepreneurship competencies as compared to their male counterparts with regard to innovativeness, proactiveness, personal initiative, personal competence, and risk-taking ability. This shows that the extent to which employees of SMEs are personally attracted to the idea of creating something and becoming entrepreneurs is not

influenced by their gender. Similarly, employees' higher-level characteristics that encompass personality traits, skills, and knowledge, which are demonstrated by their total ability to perform a job successfully are not affected by the gender of the employees.

The findings that emerged from Table 3, with regard to self efficacy and desirability, are incongruent with that of Thrikawala (2011) which revealed that gender has significantly impinged on entrepreneurial intention among employees and the extent to which one is personally attracted to the idea of creating something. Furthermore, the findings are inconsistent with the extant literature which identifies gender as an important control. Several studies (Ahl 2006; Lazányi et al. 2017; Lewis 2006; Marlow & Patton 2005) conducted in different socio-cultural contexts have found that consistently, males have demonstrated or reported higher perception toward antecedents of corporate entrepreneurship and entrepreneurial intentions compared to their female counterparts. For instance, in a study by Lazányi et al. (2017), they found that in Czech Republic, men were more likely to take risks and develop entrepreneurial behaviours.

Table 3: Effect of Gender on Employees' CE Competencies

Variables	Gender	N	Mean	Std. Dev.	t-value	p-value
self efficacy	Male	252	3.725	.829	-.501	.617
	Female	148	3.767	.825		
Perceived desirability	Male	252	3.486	.959	-.332	.740
	Female	148	3.518	.879		
Innovativeness	*Male*	*252*	*3.608*	*.920*	*-.469*	*.639*
	Female	*148*	*3.664*	*.908*		
Proactiveness	*Male*	*252*	*3.607*	*.931*	*-.984*	*.326*
	Female	*148*	*3.696*	*.863*		
Personal initiative	*Male*	*252*	*3.714*	*.924*	*-.090*	*.928*
	Female	*148*	*3.725*	*.898*		
Personal competence	*Male*	*252*	*3.523*	*.903*	*-.538*	*.591*
	Female	*148*	*3.579*	*.901*		
Risk taking	*Male*	*252*	*3.443*	*.906*	*-1.025*	*.306*
	Female	*148*	*3.554*	*.902*		
Corporate entrepreneurship competencies of employees	Male	252	3.579	.886	-.770	.442
	Female	148	3.643	.796		

Source: Field Data, 2021 df = 398 (N = 400)

Similar findings were reported in Prabhu et al. (2012) where it was found that males were more likely to exhibit entrepreneurial behaviours compared to females. In the perspective of Lewis (2006), this observation may be explained by societal stereotypical constructions of entrepreneurship that portray it to be a masculine thing to do; hence, serving as a significant challenge for women or females to develop corporate entrepreneurial competencies necessary for the formation of corporate entrepreneurship. In contrast to the plethora of studies that show women to be less likely to enact entrepreneurial intentions, some studies have reported that women tend to have strong entrepreneurial behaviour and intentions, particularly for businesses and industries that are deemed as feminine such as the tourism and hospitality industry (Gupta et al. 2009; Kelley et al. 2013).

3.4 Effect of Age on Employees' Views Regarding Antecedents of CE, Self Efficacy, Perceived Desirability, and CE Competencies of Employees

The next variable considered was the age differences that exist among respondents with regard to their views on antecedents of CE, self efficacy and desirability, and CE competencies of employees. The One-way ANOVA was used to analyse the quantitative data in order to examine the effect of the age group since the distribution was approximately normal and the respondents were homogenous. The respondents' age groups were in five categories (Group 1: less than 24 years; Group 2: 24 – 30 years; Group 3: 31 – 37 years; Group 4: 38 – 44 years; Group 5: 45 years and above). The age group of the respondents was treated as the independent variable while the dependent variable considered was employees' views on antecedents of CE, self efficacy and desirability, and CE competencies of employees. The results are depicted in Table 4.

Table 4: Effect of Age on Employees' Views Regarding Antecedents of CE, self efficacy, Perceived Desirability, and CE Competencies of Employees

Variables	Age group	N	Mean	Std. Dev.	F	Sig.
Organisational factors	Less than 24 years	95	3.657	.746	.340	.851
	24 - 30 years	160	3.679	.726		
	31 - 37 years	67	3.779	.753		
	38 - 44 years	48	3.710	.717		
	45 years and above	30	3.642	.768		
	Total	400	3.692	.742		
Environmental factors	Less than 24 years	95	3.702	.752	.586	.673
	24 - 30 years	160	3.824	.745		
	31 - 37 years	67	3.843	.795		
	38 - 44 years	48	3.729	.762		
	45 years and above	30	3.841	.791		
	Total	400	3.789	.769		
Self efficacy	Less than 24 years	95	3.689	.830	.878	.477
	24 - 30 years	160	3.715	.852		
	31 - 37 years	67	3.912	.798		
	38 - 44 years	48	3.710	.799		
	45 years and above	30	3.703	.856		
	Total	400	3.741	.827		
Perceived desirability	Less than 24 years	95	3.497	.894	.881	.475
	24 - 30 years	160	3.409	.997		
	31 - 37 years	67	3.547	.888		
	38 - 44 years	48	3.656	.975		
	45 years and above	30	3.608	.841		
	Total	400	3.498	.919		
Corporate entrepreneurship competencies of employees	Less than 24 years	95	3.536	.813	.293	.882
	24 - 30 years	160	3.597	.815		
	31 - 37 years	67	3.645	.906		
	38 - 44 years	48	3.652	.820		
	45 years and above	30	3.677	.851		
	Total	400	3.603	.841		

Source: Field Data, 2021 (N = 400)

As indicated in Table 4, there were no statistically significant differences at $p < .05$ level in the respondents' views regarding organisational [$F (4, 395) = .340$, $p = .851$] and environmental [$F (4, 395) = .586$, $p = .673$] factors. This means, the age of employees has no effect on their views regarding the operational attributes, processes, or conditions within their respective SMEs, and also the external business environment that affects their firms. This includes organisational structure, management support, resource availability, reward and motivation, competitive intensity, technology changes, and market dynamics of the firms. Again, the results show that there are no statistically significant differences in employees self efficacy[$F (4, 395) = .878$, $p = .477$] and desirability [$F (4, 395) = .881$, $p = .475$]. This shows that the extent to which employees of the various SMEs are personally attracted to the idea of creating something new or feeling attracted to become entrepreneurs is not influenced by their age.

In relation to corporate entrepreneurship competencies of employees [$F (4, 395) = .293$, $p = .882$], the results again show that age has no effect on the views of the respondents. This means employees' higher-level characteristics encompassing personality traits, skills, and knowledge, which can be seen as the total ability of their ability to perform a job successfully are not affected by their chronological age. That is, age has no effect on the proactiveness, personal competence, personal initiative, innovativeness, and risk-taking ability of the employees of the various SMEs in the Metropolis. Since there were no statistically significant differences among the employees with regard to their age group, the study fails to calculate the effect size. Also, the post-hoc comparison which makes use of the Turkey HSD test was not conducted. Even though, there are no statistically significant differences among the employees with regard to their views on organisational and environmental factors, self efficacy and desirability, and corporate entrepreneurship competencies, the findings from Table 4 show that employees who were above 23 years perceived the study variables more positively than the others.

The findings corroborate with that of Kahkha et al. (2014) who examined corporate entrepreneurship and firm performance important role of small and medium enterprises. Kahkha et al. posit that corporate entrepreneurship guarantees survival for a requirement to innovation and creation of new products and services. However, the age of employees does not base on innovation, creation and applying knowledge and entrepreneurship knowledge, skills, and competencies of the workers. Specifically, Kahkha et al. indicated that control variables such as firm age and employees' age have no significant positive impact on the various antecedents of corporate entrepreneurship and employees' corporate entrepreneurship competencies and behaviours.

3.5 Effect of Highest Educational Level on Employees' Views Regarding Antecedents of CE, Self efficacy, Perceived Desirability, and CE Competencies of Employees

The study further considered differences that exist among the various levels of education within the employees with regard to their views on antecedents of CE, self efficacy and desirability, and CE competencies of employees. Again, the One-way ANOVA was conducted to explore the differences among the various levels of

education within the employees with regard to their views on the study variables. Also, a post-hoc test was conducted using Tukey HSD to find where the actual differences lied (See Table 5). In order to quantify the differences also and to know the margin of the differences, the eta square value was calculated for the differences if any. The respondent's level of education was in four categories (Group 1: No formal education; Group 2: Basic; Group 3: Secondary; Group 4: Tertiary). The highest educational level of the employees was treated as the independent variable while the dependent variables considered were employees' views on antecedents of CE, self efficacy and desirability, and CE competencies of employees. The results are presented in Table 5.

Table 5: Effect of Highest Educational Level on Employees' Views Regarding Antecedents of CE, Self efficacy, Perceived Desirability, and CE Competencies of Employees

Variables	Level of education	N	Mean	Std. Dev.	F	Sig.	η^2
Environmental factors	No formal education	16	3.869	.718	2.235	.084	
	Basic	61	3.739	.823			
	Secondary	199	3.884	.717			
	Tertiary	124	3.664	.818			
	Total	400	3.789	.769			
Organisational factors	No formal education	16	3.625	.757	2.991*	.031	.022
	Basic	61	3.699	.727			
	Secondary	199	3.789	.741			
	Tertiary	124	3.539	.743			
	Total	400	3.692	.742			
Self efficacy	No formal education	16	3.725	.849	2.998*	.031	.022
	Basic	61	3.685	.813			
	Secondary	199	3.858	.815			
	Tertiary	124	3.696	.831			
	Total	400	3.741	.827			
Perceived desirability	No formal education	16	3.469	.903	2.697*	.046	.020
	Basic	61	3.606	.848			
	Secondary	199	3.585	.974			
	Tertiary	124	3.308	.951			
	Total	400	3.498	.919			
Corporate entrepreneurship competencies of employees	No formal education	16	3.550	.776	4.272**	.006	.031
	Basic	61	3.636	.907			
	Secondary	199	3.729	.877			
	Tertiary	124	3.497	.804			
	Total	400	3.603	.841			

Source: Field Data, 2021 *p<.05, **p<.01 (N = 400)

Where Std. Dev. = Standard Deviation, η^2 = Eta Square

As indicated in Table 5, with regard to employees' views regarding the environmental factors [F (3, 396) = 2.235, p = .084] such as competitive intensity, technology changes, and market dynamics, there was no statistically significant difference among the various level of education. However, there were statistically significant differences in employees' views regarding organisational factors [F (3, 396) = 2.991, p = .022] such as organisational structure, management support, resource availability, and reward and motivation for the four groups. The effect size calculated using eta square was .022. This means the employees' perception regarding the operational attributes, processes, or conditions within the various SMEs is influenced significantly by their highest level of education. The margin of the influence was 2.2 percent and can be described as small (Cohen as cited in Sarstedt & Mooi 2019).

Also, there were statistically significant differences between the various levels of education with regard to employees self efficacy[F (3, 396) = 2.998, p = .031] and desirability [F (3, 396) = 2.697, p = .046]. The effect sizes calculated using eta square, for employees' self efficacy and desirability, were .022 and .020 respectively. The margins of the influences were 2.2 percent and 2.0 percent respectively. This shows that the highest educational level of employees has a significant but small influence

on the extent to which they are attracted to the idea of creating something new or becoming an entrepreneur. Again, the results show that the highest level of education of employees has a statistically significant effect on their corporate entrepreneurship competencies [F (3, 396) = 4.272, p = .006] regarding innovativeness, proactiveness, personal competence, personal initiative, and risk-taking ability. The margin of the difference between the groups was 3.1 percent respectively. This means, higher-level characteristics encompassing personality traits, skills, and knowledge, which can be seen as the total ability of the employees to perform a job successfully, differ significantly among the various level of education.

Based on the findings that emerged from Table 5, with regard to the differences that existed, the study further conducted post-hoc comparisons for the groups. The variables that indicated some levels of differences were organisational factors, corporate entrepreneurship competencies, self efficacy, and desirability. The results are presented in Table 6.

Table 6: Post-Hoc Comparisons of Employees' Level of Education with regard to their Views Regarding Antecedents of CE, self efficacy, Self efficacy, and CE Competencies

Tukey HSD Dependent variable	(I) Highest educational level	(J) Highest educational level	MD (I-J)	Sig.
Organisational factors	Secondary	Tertiary	.250*	.017
Self efficacy	Secondary	Tertiary	.276*	.018
Perceived desirability	Secondary	Tertiary	.278*	.041
Corporate entrepreneurship competencies of employees	Secondary	Tertiary	.338**	.002

Source: Field Data, 2021 Where MD = Mean Difference (N = 400)

As indicated in Table 6, the post-hoc comparisons using the Tukey HSD test show that the mean score differences between employees with secondary and tertiary levels of education were significantly different from each other with regard to their views on organisational factors (MD = .250, p = .017), self efficacy(MD = .276, p = .018), perceived desirability (MD = .278, p = .041), and corporate entrepreneurship competencies (MD = .338, p = .002). The significant differences occurred only between those whose highest level of education was secondary and tertiary. Specifically, as indicated in the table, employees with secondary education as their highest level of education perceived the variables higher as compared to those who indicated that their highest level of education was at the tertiary level.

The finding that more of the employees' highest level of education was at the secondary level may mean that the SME sector is more susceptible to people with low level of education. This finding is in line with the comments that SMEs are particularly suitable for individuals with relatively low levels of education and skills, although these enterprises also can generate (few) jobs for skilled professionals (Calisto 2017).

3.7 Effect of Years of Operation on Employees' Views Regarding

Antecedents of CE, Self efficacy, Perceived Desirability, and CE Competencies of Employees

Data were collected further to find out whether there is a statistically significant difference in the views of employees on antecedents of CE, self efficacy and desirability, and CE competencies of employees with regard to the number of years their firms have been in business/ operation. Again, the One-way ANOVA was used in analysing the data in order to analyse the data and to explore the differences among the various groups of employees. Also, a post-hoc test was conducted using Tukey HSD to find where the actual differences lied if any. In order to quantify the difference also and to know the margin of the difference, the eta square value was calculated for the difference, if any. The number of years in business/operation of SMEs was the independent variable and it was in four groups (Group 1: Less than 6 years; Group 2: 6 – 10 years; Group 3: 11 – 15 years; Group 4: Over 15 years). The dependent variables considered were the views of employees on antecedents of CE, self efficacy and desirability, and CE competencies of employees. The results are presented in Table 7.

Table 7: Effect of Years of Operation on Employees' Views Regarding

Antecedents of CE, Self efficacy, Perceived Desirability, and CE Competencies of Employees

Variables	Years of experience	N	Mean	Std. Dev.	F	Sig.	η^2
Organisational factors	Less than 6 years	195	3.716	.739	.292	.831	
	6 - 10 years	70	3.702	.815			
	11 - 15 years	50	3.612	.668			
	Over 15 years	85	3.672	.746			
	Total	400	3.692	.742			
Environmental factors	Less than 6 years	195	3.935	.796	2.777*	.041	.021
	6 - 10 years	70	3.889	.729			
	11 - 15 years	50	3.740	.752			
	Over 15 years	85	3.592	.799			
	Total	400	3.789	.769			
Self efficacy	Less than 6 years	195	3.793	.854	1.073	.360	
	6 - 10 years	70	3.793	.785			
	11 - 15 years	50	3.612	.825			
	Over 15 years	85	3.653	.844			
	Total	400	3.741	.827			
Perceived desirability	Less than 6 years	195	3.488	.985	.690	.559	
	6 - 10 years	70	3.607	.844			
	11 - 15 years	50	3.471	.973			
	Over 15 years	85	3.426	.874			
	Total	400	3.498	.919			
Corporate entrepreneurship competencies of employees	Less than 6 years	195	3.674	.851	1.320	.267	
	6 - 10 years	70	3.599	.849			
	11 - 15 years	50	3.426	.868			
	Over 15 years	85	3.713	.796			
	Total	400	3.603	.841			

Source: Field Data, 2021 *p<.05 (N = 400)

Where Std. Dev. = Standard Deviation, η^2 = Eta Square

As indicated in Table 7, the number of years SMEs have been in business/ operation has no statistically significant effect on employees' views organisational factors [F (3, 396) = .292, p = .831], self efficacy[F (3, 396) = 1.073, p = .360], perceived desirability [F (3, 396) = .690, p = .559], and CE competencies of employees [F (3, 396) = 1.320, p = .267]. The findings mean that the operational attributes, processes, or conditions within the various SMEs are not influenced by their number of years in business/operations. Similarly, the extent to which employees are personally attracted to the idea of creating something new or becoming an entrepreneur is not influenced by their number of years in business/operations. Also, the higher-level characteristics exhibited by employees encompass personality traits, skills, and knowledge, and can be seen as the total ability of the entrepreneur to perform a job successfully is not influenced by the number of years the various SMEs have been in business/ operations.

However, in relation to environmental factors such as competitive intensity, technology changes, and market dynamics, there was a statistically significant difference at the $p < .05$ level in the years of operation of SMEs in the Metropolis for the four groups [$F (3, 396) = 2.777$, $p = .041$]. The effect of the actual difference in mean scores between the groups with regard to employees' views on environmental factors was small. The effect size calculated using eta square was .021. Specifically, the results show that employees who are working in the various SMEs that have existed actively for less than six (6) years perceived the various environmental factors more positively than those working in enterprises who have been in business/operation for over 15 years. The calculated mean difference was 25.9 percent ($MD = .259$, $p = .047$). This shows that the external business environment that affects the firms, and influences and circumstances or situations that SMEs cannot control and can affect their business decisions are more severe among young firms as compared to old firms.

4.1. Strength and limitations

The main strength of the study is the use of a relatively large sample size to assess the effects of age, education, years of operation and gender on antecedents of CE, self efficacy and desirability, and CE competencies of employees. Despite this, the following limitations are worth acknowledging. First, the study was a cross-sectional study, therefore causal inferences cannot be drawn from the findings. In addition, the study was limited to only STM of the Western Region of Ghana. There is also the possibility of social desirability biases, however, this was limited by making the respondents understand that this study is not an assessment of their performance but rather for an academic work. In addition, the respondents were given ample time to respond to the questionnaires.

5.1 Conclusions and implications

Per the finding that gender and age of employees have no statistically significant effects on employees' views regarding organisational and environmental factors, self efficacy and desirability, and CE competencies, one can say that being a woman or young will not lead to poor acquisition of CE competencies. It is, therefore, recommended to owners/managers of SMEs and policy makers in the sector to ensure that policies which involve promotion of SMEs and intrapreneurial competencies are properly implemented devoid of gender and age biases to enable a larger proportion of the population to get employed in the sector and also have the opportunity to acquire the needed intrapreneurial knowledge, skills and competencies. Therefore, the Ministry of Trade and Industry through GEA should create room for employees within the SME sector, particularly women and the youth, to have meaningful opportunities through on-the-job training and workshops/seminars to acquire the necessary intrapreneurial competencies for development.

Ethical Approval and Consent

A copy of the proposal and the self-designed instruments were submitted to the office of GEA at the Metropolis for review and validation. During the data collection stage, the respondents were informed about the purpose of the research and its objective. All ethical principles and procedures including COVD-19 protocols were observed strictly. The privacy and confidentiality of the respondents were upheld during the data collection.

Declarations

Funding and/or Conflicts: None declared.

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