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Forecasting high skill needs: An empirical analysis on Italian enterprises survey

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Abstract

The current knowledge-based society and existing demand of employers have generated a need for highly educated workers with different skills and competencies within the workplace. Information on emerging skills needs has become crucial, especially as several sectors already face skill shortages and a mismatch of supply and demand. The aim of this paper is to gain empirical insight into the determination of the propensity of enterprises to recruit high skill (HS) workers and to explore the main characteristics affecting it. The empirical analysis is based on the Italian Excelsior Information survey data, the only Italian enterprises survey that provides information about specific characteristics of the job profiles required by the enterprises, and used in the application for the identification of the high skill needs in the province of Rome (Italy) in years 2003-2007. A logit model is estimated on these Excelsior data to define the probability to hire HS workers with different characteristics. The logit model is a nonlinear regression model, where the dependent variable is the probability of occurence of an event, corresponding in this case to “be hired in a HS job”. The study yielded different findings, highlighting how some main characteristics, as age, work experience and educational fields, impact on recruitment propensity and, on the other side, confirming that talent management is part of the Recruiting Human Resource function, able to support the company in the transformation of talent into high skill. These results could be used by policy makers to develop an effective vocational and educational training system aimed to guarantee more employability, and address managers in their human resource management. Moreover, they are in line with the European guidelines to have labour market information on current and future occupational needs, to identify the requirements in knowledge and skills.

Keywords: Strategic talent management, Employability, High-skills, Logit model, ASA model.

Introduction

Recent literature has pointed out that very often information concerning job demands are poor, and this can cause a disequilibrium and mismatch of supply and demand in the labour market. The inability of employers to fill their vacancies with people that have the right skills is associated with a significant decline in employment and increase of structural unemployment rates (Cedefop 2018). As highlighted by Handel (2003), «*information on the actual skill content of jobs is a significant obstacle to answering this question with*

confidence» (Handel, 2003, p.135). The interest on early identification of skill needs has become a priority for policy-makers and skill needs are now on the top of the policy agenda in most of the European States. However, the skill needs are rapidly changing, due to challenges arising from technological development and innovation. Future job will supposedly been more knowledge- and skill-intensive. Talent Management (TM) tries to respond to the challenge of talent shortage and human capital (Michaels et al. 2002) and high skills are becoming a key talent feature.

In literature, different definitions of talent have been given (Lepak et al. 2018; Oseghale et al. 2018; Dries, 2017), making difficult to identify the precise meaning of it (Lewis and Heckman, 2006). As argued by Collins and Mellahi (2009), the TM is not a paradigm shift, but a process from a competitive advantage in traditional human resource management (Miller et al., 1998), and a strategic human resource management (Huselid et al. 1997) to a talent specific management suited to the today dynamic competitive environment. These dynamics have impacted on high skills (HS) definition. Thus, a clear explanation of HSs is needed, inside the so-called strategic TM. Collings and Mellahi (2009) define strategic TM the "*activities and processes that involve the systematic identification of key positions which differentially contribute to the organization's sustainable competitive advantage, the development of a talent pool of high potential and high performing incumbents to fill these roles, and the development of a differentiated human resource architecture to facilitate filling these positions with competent incumbents and to ensure their continued commitment to the organization*".

Following this perspective, HS can be defined as the ability/capability of converting talent in high competences. High skills represent, in this perspective, a pool of TM. A talent has several stratifications, in which the base level is the natural ability/inclination to do an action (Lewis and Heckmn, 2006), whereas the HSs are expressed in terms of the stocks and flows of human capital needs, extended to include issues of process, co-ordination and trust relations. Skills are the ability to use knowledge and know-how to complete a task or solve a problem, whether in a professional or learning context and in personal and social life. The knowledge-based economy is marked by increasing labour market demand for more highly skilled workers (Foray, 2006).

The *Lisbon Strategy* and the European *New Skills for New Jobs* initiative in 2008 emphasize the importance of human capital and related investments in education and training, as key policy levers to foster growth, employment and competitiveness, together with innovation, research and development. Therefore, Cefedop (2009) and many European countries addicted particular attention on labour market information on current and future occupational needs, to identify and forecast emerging skills. In particular, the question is trying to identify which are the skills profiles in different jobs challenging to technological progress and to the shift to a knowledge economy. For instance, the occupational skills profiles given by Cedefop summarize the most essential characteristics of a given occupation, not only in terms of the required level and field of education and training, but also by identifying the requirements in knowledge, skills, abilities and attitudes (Cedefop, 2013).

In the last decade, the main changes in European skills' needs can be summarized as follows (Gardiner, 2009, p. 73):

1. An increase of high skill jobs (e.g. professionals);
2. A decline of some low-skill jobs (e.g. clerks);
3. A decline of traditional skilled trades (e.g. craft jobs);
4. An increase of elementary jobs (e.g. cleaning, call center)

Understanding labour market trends and occupational needs has become a fundamental key to increase the match between labour demand and supply, and covering the gap between workers' skills and education and current job demands. Unemployment, recruitment difficulties and people doing jobs not using their potential are only some of the aftermath of skill mismatch. Therefore, understanding and anticipating skills needs can be useful information to enterprises, public institutions and individuals who are looking for a job.

This paper aims to fill this gap, by proposing data and analysis to define the high-skills characteristics required by companies and to estimate firms propensity to employ high-skilled workers. In particular, we propose for the province of Rome (Italy) a database containing information on workers and on structural and economic characteristics of enterprises and their jobs requirements in terms of skills and professional qualifications. Moreover, we estimate through a logit model, the propensity to hire high-skill workers by enterprises, looking at different crucial variables that can affect this probability, according to some research proposition suggested by the literature.

Our application will focus on the propensity to hire HSs employees of firms in the province of Rome. The choice of our application is based on two main considerations:

- Availability of territorial data, representative of a significant portion of Italian panorama.
- Analysis of Intellectual Professions that represent the employees with the higher competencies (Brill *et al*., 2006; Khandwalla 2004; Davis *et al*., 2004; Cheetham *et al*. 1998; Eraut, 1994).

In our analysis, for the period 2003-2007 and the province of Rome, there is detailed information available of around 251,000 new employees.

We propose a short report containing the results of our preliminary analysis carried out on this database and the output estimation of the logit model applied on our survey data. The aim of our paper is twofold: to provide a new information set useful for the labour market with a high territorial detail and to propose a new inferential instrument able to lead to more responsible job choices. The estimated model may significantly improve the medium-term forecasting of required skills by employers. As far as we know, no such analysis has been conducted on Italian data and with this methodological approach.

The structure of the paper is the following. Next section reviews the literature on the topic concerning the paper and introduces the research questions. Second section is devoted to the data and the method applied in our empirical study: the occupational needs of enterprises in the area of Rome (Italy) collected by Excelsior Unioncamere survey in the period 2003-2007 and the logistic model to estimate the probability to be recruited by a company, with respect to skills and competencies. Section three shows the empirical

results and section four outlines some implications drawn from them. Last section contains some concluding remarks and future developments of our research.

High skills and research questions

There is large consensus that the success of an enterprise derives from the value of their working people, who are the holders and creators of human, social, and intellectual capital (Ndlela and du Toil, 2001; Pfeffer and Veiga 1999; Brown, 1995). Tansley (2011:266-274) says that «*organizational talent, in order to be identified and developed, must be visible, stimulated and nurtured*». He defines TM as a dynamic process of discovering, developing and sustaining talented individuals.

Talent-sourcing (Adam, 2009) is a critical activity, because firms' needs in terms of innovative skills are continuously changing. Many organizations are now increasing their expenses on HR and on training, but most of them are still lacking a fully integrated TM process and the capabilities necessary to answer to the wider challenges of talent shortfalls and competition.

TM can be outlined as a function of the HR and from this point of view, it refers to the ability of attracting highly skilled workers, integrating new workers, and developing and retaining workers to meet current and future business objectives (Byham, 2001; Chowanec and Newstrom, 1991; Heinen and O'Neill, 2004; Hilton, 2000; Mercer, 2005; Olsen, 2000). However, most companies still practice TM in a traditional way, through the standard recruitment and selection of individuals, and their placement within the company.

Recent literature also shows that HSs are an integral part of TM. In this paper, we study HSs in relation to the strategic management paradigm. Accordingly to Collings and Mellahi (2009), an organisation should differentiate between employees who are strategic performers and those who are not. The authors affirm, "*In order for strategic or pivotal jobs to have a differential impact on organisational performance, it is important that such jobs are filled with high performing or high potential employees*" (Collings and Mellahi, 2009, p. 306).

As firms compete with the transformation of their businesses and organization, and the "reskilling" of their workforces, they must also prepare for long-term, permanent structural shifts in skills demand. A new geography of talent will come to define workplace recruitment and will transform human resource strategies.

Talent in an employee can involve all kinds of elements, from their educational qualifications and skills, previous experience, known strengths and additional training they have undertaken, to their abilities, qualities and personality. Indeed, economic changes have created the new phenomenon of the "knowledge-worker" and have transformed the concept of labour into talent, a new kind of productive resource. The new concept of worker is a mix of a specific combination of knowledge-skills-attitudes. Competencies are the set of skills, knowledge and behaviours that an individual need to carry out effectively. Skills are what an individual is able to do, defined by its education and experience. Knowledge is what he knows or needs to know to apply these skills, and behaviour or attitude is the individual needs to act to be most effective (Cheese *et al*., 2008: 91). It is necessary for workers to acquire transversal key competencies and to develop the right skills to be able to adapt to different kinds of tasks over their working life.

The rise of the knowledge worker reflects the changed skill requirements of the workforce. The knowledge economy requires ever higher-skills associated with IT systems that develop capabilities. Problem solving skills, ability to innovate, team working and people management skills are other important feature for every modern company. The priority is to make sure that the hiring development programs are close to the firms' specific competency gaps and needs.

To ensure the opportunity of their strategic survival in the long term, enterprises need to improve the satisfaction of workers and organizational performances, through a better accordance between needs of the labour market and development of system competences (educational system, development policies and others) of the labour market. Therefore, educational skills should more properly answer to work experience expected by employers (OECD, 2013b).

The skills and competences of employees are a component of the firm's productivity, competitiveness and innovation. Investment in skills is a crucial prerequisite for the long-term performance of our economies. We live in an age of hyper-specialization (Malone et al., 2011). As the demand for skills continues to shift towards tasks that are more sophisticated and as technology pervades all aspects of life, employees with poor literacy and numeracy skills are more likely to find themselves at risk (OECD, 2013b).

Looking at skill competences, Guest (2004a; 2004b) distinguishes between different job categories, namely between knowledge workers (with HS and high employability) and other categories (e.g. unskilled workers). Given the increasing demand of knowledge workers and the strategic importance of human capital, it has becoming of increasing importance highlighting what influences firms' propensity to employ high-skilled workers.

The contractual typology (full, fixed, apprenticeship, etc.) may impact the trust and credibility of the companies, reducing their ability to attract HSs workers. Moreover, non-permanent contracts are supposed to be used by companies as a buffer in recession periods. However, most times jobseekers accept a temporary work status for employability and career development motives, including the opportunity to learn from different jobs and companies, to explore the labour market and future career opportunities. From this point of view, workers are able to extend and improve their knowledge and skills, thereby intensifying and reinforcing their future employability in the labour market. We need to verify through data the relationship between employability and job contract.

The current employment crisis is not a problem caused only by the recent recession. The nature of work caused by advances in technology and the demand for new specific skills involve a strong structural change. We live a global crisis where increasing unemployment due to the recession and skills shortages caused by lack of training or support in the transition in the world of work are occurring simultaneously (UKCES, 2012).

Hypothesis 1 (H1): Ability to anticipate skill needs.

Analysing skill needs in Europe is currently constrained by lack of data and appropriate classifications (Cedefop, 2013). On the other hand, the European skills, competences and occupations taxonomy (ESCO) are a valuable tool to link qualifications to skills and competences to occupations. Therefore, anticipating occupational skill needs is a priority for the lifelong learning development of competences and qualifications (ETUC 2002). A correct capacity to forecast, anticipate and match future skills is a precondition for the

design of efficient employment, education and training policies and individual career choices. Several correlated factors will stimulate demand for better skills: globalization, ICT, changes in work organization, which are themselves in part a consequence of technological change and skills upgrading. In EU 25, between 2006 and 2020, the proportion of jobs requiring high levels of education attainment should rise from 25.1% to 31.3%; jobs requiring medium qualifications would also increase slightly, from 48.3% to 50.1%. At the same time, the share of jobs with low levels of education attainment would decline from 26.2% to 18.5% (European Commission, 2010).

Morrison (2014) has shown that some educational qualifications have a strategic role in the employability process. Many authors (Bowles, 2014; Greenhaus *et al*., 2009; Light *et al*., 2009) argued that the educational system should take into account the real needs of the labour market. The relation between what firms actually need and what educational system offers is dual: direct results in terms of an increase in the «occupability» of people; indirect results linked to the increase of workers satisfaction and wellness (Jackson, 2013, Parks et al., 2008; Roslender *et al*., 2006; Ho, 1997) that increases employers wellness (Berry *et al*., 2010). Moreover, many authors stated that there is no evidence that job performance and type of job contract are related to the age of the employee. However, for young employees the relation between age and job performance can be consistent and modestly positive (McEvoy *et al.*, 1989:11). Schlimgen (2011) verified that the factors that affect hiring decisions are young age and technology matter.

Although the literature has not extensively tested the correlation between age and work-experience, a few analysis shows that the propensity to employ could shadow the following mix age/work-experience: Y-generation (age less than 35) with generic work-experience. The Y-generation is defined as the generation of the new millennium (Millennial or Echo Boomers to indicate people born between 1980-2000).
Nevertheless, according to data from European Commission (2008), the next decade will seen an increasing demand for high-qualified and adaptable worker increasingly based on a specific work experience. However, actual labour policies for young people are still not sufficiently developed. In addition, the working-age population includes an increasingly important proportion of older people in the age range 55-64, rising from 17% in 2005 to around 23 % in 2025. Therefore, enterprises will have to rely increasingly on the experience and skills of older workers (Dell'Arringa, 2009, p. 25).

Hypothesis 2 (H2): Firms prefer to hire HSs graduated workers and there is an important link between age and work-experience.

The last research question is: do enterprises require high skilled workers only in recession-time, when there are difficult competitive conditions?
Changes in levels of employment and the nature of work caused by advances in technology (Autor et al., 1998) suggest longer-term structural changes, which have led to a global crisis where unemployment and skill shortages are occurring simultaneously (OECD, 2013b). In line with the Knowledge Theory (Hislop, 2013; Van de Ven *et al*., 2006), employers prefer to look on the quality of the employee rather than on generic characteristics of the labour market, such as taxation or employment incentives (Melnikas, 2013; Samulevicius, 2013; Lobanova *et al*., 2012).

The last question concerns whether employability need of workers with high-skills are merely typical of a recession period or not. In literature, few empirical studies analysed the recent tendency of employing HS workers: «*In general, studies indicate a shift toward jobs*

requiring more skills, but there is little evidence for acceleration in the past two decades» (Hendel, 2003:150). Consistently with this evidence we want to test the following hypothesis.

Hypothesis 3 (H3): The propensity to hire high skilled workers is not typical of a recession time only: before the recession, companies were already looking for talent and recruitment planning was already directed to the most qualified professions.

The level of youth unemployment had already been rising before the recession. This situation evolved during the boom that occurred immediately before the financial crisis of 2008, meaning that the recent increase in youth unemployment is a rebound to pre-recession levels. Therefore, it is important to ensure that people with the right skills that maximize their immediate employability can fill the available jobs.
In November 2007, before the financial crisis of 2008, the Education, Youth and Culture Council adopted a resolution on *New Skills for New Job*s, which pointed out the need to identify new types of job and skills need in Europe. The European Centre for the Development of Vocational Training – Cedefop – has begun to develop medium and long-term skills forecasting at EU level, with the first results published in 2008 (European Commission, 2008).

Advances in technology have improved the position of individuals with the highest levels of skills and education and reduced the need for people to perform mindless or manual tasks. The jobs of the future will require overqualified skills: it will be necessary to maintain transferable skills to be flexible (OECD, 2013a). Employers often prefer to hire candidates who already have skills and experience they need (Cheese *et al.,* 2008).

The aim of the paper is to verify through data the previous three hypotheses. Literature suggests different proposition on employability and propensity to hire, however it is important to use experimental data given by enterprise survey to validate them and to bring further empirical evidence. Using a qualitative and quantitative research approach, this study will empirically analyse the three hypotheses.

Data and Method

Data used in the paper are provided by the Excelsior Information System and refer to the years 2003-2007 on the province of Rome (Italy). Excelsior is the only Italian enterprises survey that provides information about specific characteristics of the job profiles required by the enterprises. This survey represents the most exhaustive source of information available in Italy concerning the professional and training needs of the enterprises (Castiglioni and Tijdens, 2014). Unioncamere, the Italian Union of the Chambers of Commerce, with the participation of the Ministry of Labour, promotes the Excelsior survey since 1997. It is one of the official statistics produced within the Italian National Statistical System (SISTAN). The survey covers a sample of over 100,000 Italian private enterprises, equivalent to around 8% of the total of enterprises having at least one employee. The reference universe is given by the enterprises in the Business Register, supplemented also by data from other sources, like ISTAT (Italian Statistical National Institute) and INPS (National Social Security Institute). The job classification and educational levels are defined in accordance with the international standards, respectively of ISCO-08 (ILO, 2012) and ISCED (UNESCO, 2011).

The main goal of the Excelsior survey is to collect information on jobs and skill needs of enterprises, by monitoring future enterprises employment perspectives and related requested professional profiles, in order to guarantee more employability and efficient human resource management, and addressing labour policies (Cefedop, 2009, Unioncamere, 2015). Therefore, the aims of this Italian enterprise survey are consistent with the European enterprise surveys of the Member States and can be summarized into the following five goals (Strietska-Ilina, 2009, p. 126):

1. Design of policies on initial and life-long education and training;
2. Design of training programs and vocational training standards;
3. Identification of skill gaps with respect to level and type of education/training;
4. Work and environment organisation, looking at the business and technological changes and their impact on company skills and training needs;
5. Human resources management and recruitment practices, following problems concerning skill gaps and labour shortages.

Compared to the European skill survey of Cedefop, Excelsior survey has finer information details and accuracy, and is conducted at a province level. In particular, this survey allows investigating regional patterns and hotspots of skills demand (e.g. provinces, regions).

The available data cover several quantitative and qualitative aspects, as, for example: a) the specific job which the employers are looking for and in which economic activity sector; b) the required educational level and field of studies; c) the preferred age of the candidates; d) the work experience; e) the need to provide post entry training; f) the difficulty of enterprises in recruiting specific job profiles.

The 500 meta-occupations used in the labour force survey by ISTAT were classified into 16 occupational groups homogeneous with respect to their cognitive content, following the Excelsior classification scheme. Moreover, for the province of Rome, each group has a job demand at least 1% higher than that observed overall Italy. Therefore, we don't incur in the logistic model problem to be ill-suited in forecasting rare events. The classification is a useful instrument bringing all existing occupations in the labour market within a limited number of professional groups, to be used to disseminate and exchange internationally comparable statistical and administrative data on occupations. Further, we aggregated the sixteen occupational groups into the following five final clusters: Intellectual and professional technicians; Clerks; Qualified professionals; Skilled workers; Semi-qualified professionals and elementary occupations. The first cluster defines the HS workers and within it, we identify the Intellectual professions, which correspond to 36.4% of total HS recruitments and 9.1% of total recruitments. Accordingly, we define a binary variable with the two outcomes: hiring intellectual professions and hiring other HS professions. In mathematical notation:

$$Y_i = \begin{cases} 1 & hiring \quad intellectual\ profession \\ 0 & otherwise \end{cases}$$

with $i = 1,...,n$ the analysed individuals. We then estimate the probability of an individual to attain an intellectual profession, $Pr(Y_i = 1) = _i$ (Cörvers, 2009), through a logit model, by including a set of explanatory variables $X_{1i},... X_{ki}$, which represent the distinguishing

features of the specific labour market (e.g. the type of contract, age, experience, education level, computing skills, etc.):

$$logit(\pi_i) = \log\left(\frac{\pi_i}{1-\pi_i}\right) = \beta_0 + \beta_1 X_{1i} + \cdots + \beta_k X_{ki}$$

where π_i is the probability of the occurrence of being hired in a HS professional job.
In the model, our dependent variable is the logit transformation of π, i.e., $\log[\pi/(1-\pi)]$. The logit of a probability is simply the log of the odds ratio $\pi/(1-\pi)$. The logit function can take any real value, but the associated probability always lies in the required [0,1] interval. The interpretation of the coefficient β_i can be made with respect to the odds ratio. Therefore we have generally:

$$\frac{\pi}{1-\pi} = \exp(\beta_i)$$

and, for example, if $exp(\beta_i) = 2$, then a one unit change in X_i would make the event twice as likely to occur, with respect to their complementary event.
According to information available on Excelsior database, the variables used to map the intellectual professional profiles of potential employees have been divided into two groups: labour market variables and control variables. Table 1 lists these variables in detail.

Table 1. Explanatory variables

Labour market Variables	**Categories of the variables**
Type of contract	**Full; Fixed; Apprenticeship; Other**
Age	**< 24; 24-34; > 35; no preference**
Previous experience	**Specific to the job; Specific to the sector; Generic; Not required**
Educational	**Upper secondary school; degree in Chemistry; degree in Economics;** degree in Electronic Engineering; degrees in other field of Engineering; degree in Math, Physics or scientific disciplines; other degrees.
Language knowledge	Required; Not required
Computer knowledge	User; programmer; not required
Training	Yes; no
Difficulty to fill jobs	Hard to fill; not hard
Gender	Males; females; no preferences
Control Variables	
Type of economic sectors	**14 types of economic activities**
Size of enterprises	**1-9; 10-49; 50-249; > 249**

The following tables (Tables 2 – 12) show the requested future recruitment of intellectual professional workers by employers, with respect to some specific characteristics.

For the province of Rome, in our database, we have that 65% of requested intellectual HS professions will get a permanent contract (Table 2) and the favourite employees' age is between 24 and 34 years (Table 3). People with bachelor degrees in Economics and Engineering are preferred (with about a 47%, Table 4) and 65.3% of employees needed in HS intellectual professions ought also to possess a specific work experience in the same

Table 2. Future need of Intellectual HS employees - Type of contract

	% (of total)
Full	65.1
Fixed	19.4
Apprenticeship	2.2
Other	13.3
Total	100.0

Table 3. Future need of Intellectual HS employees - Age

	% (of total)
Up 24	4.3
24-34	64.5
Over 35	9.6
No preference	21.6
Total	100.0

Table 4. Future need of Intellectual HS employees - Education

	% (of total)
Upper secondary	23.3
Chemistry	10.2
Economics	17.8
Electronic engineering	20.1
Other degrees in Engineering	8.9
Math, physics	7.8
Other degrees	11.9
Total	100.0

Table 5. Future need of Intellectual HS employees - Experience

	% (of total)
In the same job	36.6
In the same sector	28.7
Generic work	5.0
No required	29.7
Total	100.0

With respect to language and computer skills, technological development improved significantly recruitment perspectives of workers with high-level skills. Technical knowledge is now a prerequisite for specialist roles, but other abilities, as language and computer knowledge, are crucial for managerial occupation. Table 6 shows that 60% of potential candidates should know at least one language, and more than 90% should be able to use a computer (Table 7).

Table 6. Future need of Intellectual HS employees - Language

	% (of total)
Required	69.3
No required	30.7
Total	100.0

Table 7. Future need of Intellectual HS employees - Computer

	% (of total)
User	52.6
Programmer	40.7
No required	6.7
Total	100.0

In a business world becoming more and more complex, talented individuals with specific competencies are more requested. Therefore, people need to have high profiles to answer to the required skills, while workers need to adapt steadily to the changing environment to remain employed during their career (CGMA, 2014). To this end, a continuous link between education, skills and jobs is needed. Therefore, we introduce in our analysis two more variables, able to catch these features: training and troubles in filling the jobs. We also consider some variables describing the characteristics of enterprises: economic sectors (14 types of economic activities) and size of enterprises.

As reported in Table 8, more than 50% of potential candidates require a training course. Moreover, one candidate on four does not fill the expected skills (Table 9). Finally, about 80% of the hiring is with no gender preference (Table 10).

Table 8. Future need of Intellectual HS employees - Training

	% (of total)
Training courses	55.6
Other or no training courses	44.4
Total	100.0

Table 9. Future need of Intellectual HS employees – Difficult to recruit

	% (of total)
Hard to fill	26.0
No hard	74.0
Total	100.0

Table 10. Future need of Intellectual HS employees - Gender

	% (of total)
Men	10.2
Women	10.0
No preference stated	79.8
Total	100.0

Looking at the economic activity sectors, “Advanced business services” covers 31.4% of the analyzed hiring, while 17,6% by ICT sectors and 9.5% by Chemical industries (Table 11). It is interesting to note that more than half of the jobs are requested by big enterprises, with more than 250 employees (Table 12).

Table 11. Future need of Intellectual HS employees - Sectors of economic activity

	% (of total)
Other manufacturing industries	0.5
Paper and printing	1.8
Mechanics and electronics	8.6
Chemical	9.5
Construction	1.4
Wholesale and retail trade (including repair)	8.0
ICT	17.6
Advanced business services (excluding computer science)	31.4
Transport and postal activities	1.7
Banking, insurance and financial services	6.1
Other services	8.1
Professional activities	1.9
Private healthcare services	1.2
Private education and training services	2.2
Total	100.0

Table 12. Future need of Intellectual HS employees - Enterprise size class

	% (of total)
1-9 employees	15.7
10-49 employees	16.5
50-249 employees	15.9
250 + employees	51.9
Total	100.0

Empirical results

Data used in our empirical analysis to estimate the probability to be recruited in an intellectual professional job are those of Excelsior survey for the province of Rome, in the period ranging from 2003 to 2007. This survey aims to analyze the professional needs envisaged in the next future by the interviewed enterprises. The goal of our research is to forecast and investigate how HS recruitment depends on some crucial characteristics. To this end, in our study we propose to estimate the future probability to be recruited in an intellectual professional job with respect to a technical HS one, through a logit model. Understanding and anticipating skills needs can be useful information to young people looking for their first job, enterprises, decision makers and operators of the job training and job market fields.

The estimation of our model represents a useful tool not only to explain recruitment opportunity in Italy, but also to reduce the level of uncertainty of any person having to make choices on the labour market. Moreover, our empirical analysis aims to confirm through the data the postulated research questions exposed in the previous section.

The output of our estimated logit model, with all labour market and control explanatory variables, is shown in Table 13. Each variable is listed with their categories and the related estimated coefficients, exponential transformations and interval estimations, providing in this way useful information on the probability to be hired in an intellectual profession. All the estimated coefficients are significant at least at a 5% level. The more exp() is greater than one, the more the corresponding characteristic will have a positive impact on the probability to be hired in an intellectual HS profession compared to a technical HS profession.

The main finding of our application can be summarized as follows:

- The different types of contract (full, fixed and apprenticeship) are not discriminatory in the probability to be hired in intellectual or technical high skill profession;
- Employers prefer to hire candidates who already have the skills and experience they need;
- Low connection between what people are able to do and skills asked by employers in some sectors;
- Individuals aged above 35 year are more likely to be hired in intellectual rather than in technical high skill professions.

Our empirical evidence is able to answer to the main research questions pointed out in previous section: forecasting skill needs, defining a link between age and work-experience and showing that HS is not a need only during recession. As expected, those who possess a job specific experience have more opportunities of being hired ($exp(\beta) = 1.654$) than those without experience.

Looking at the education degrees, chemistry leads with higher probability to an intellectual profession. This is not a surprise, because jobs classified in this field are typically based on research and, therefore, included in the group of intellectual professions. Similarly for the degrees in Mathematics and Physics ($exp(\beta) = 4.672$). Instead, Electronic Engineering is more requested in technical HS professions. Economic degree has similar probability in both intellectual and technical hiring. Finally, there is a positive association between employment and knowledge of a language ($exp(\beta) = 1.333$) or knowledge of information technology as programmer ($exp(\beta) = 4.209$).

For the control variables we have:

- Individuals hired in intellectual professions do not attend further training courses;
- Employers assert that it is “Harder to fill jobs” in intellectual professions ($exp(\beta) = 2.041$);
- Companies are indifferent to the gender;
- Economic sector in Construction, Wholesale and retail trade, Transport and Healthcare services employ more probably individuals in technical skill professions, wherever Advanced business services intellectual ones;
- The medium-sized enterprises (50-249 employees) are more likely to hire intellectual than technical professions.

The analysis carried out so far take into account only the direct impact of each single explanatory variable. However, it should be interesting to see how interaction factors (Table 14) can affect the hiring probability. The selection of only significant estimated interactions assures parsimony and improves forecast ability of the proposed model.

The interaction between age and experience may give more in-depth information on the life-long learning process necessary to assure a high performance in the profession. In particular, from the estimated output, we can assert that the probability to be hired in intellectual professions is higher for those:

- Aged under 24 years but possessing specific work experience in the same sector that is hiring;
- Aged between 24 and 34 years with a specific job experience, but also those with generic work experience.

This confirms the basic assumption that specialized knowledge is preferred, but generic professional work experience is always positive to increase competencies. Therefore, theory and practice, knowledge and skills should be combined over all the working life.

Moreover, the level of education has significant interactions with age and work experience. This result tries to answer the research question defined in Hypothesis 2, and is in line with Schlimgen (2011). For example, high-school diploma and degree in electronic engineering, that previously negatively impacted on the probability to be hired in management and intellectual professions, now exhibit a positive relationship if combined with the following modalities of the variable age: up to 24 years and between 24 and 34 years. This means that companies, in planning their engagements, allocate a quota to school leavers and graduates in Electronic Engineering as well as a reserve for new graduates, of age not exceeding 24 years, in Mathematics or Physics ($exp(\beta) = 5.012$).

Table 13. Logistic regression – Recruitment Intellectual professions[a]

			Asymptotic 95% C.I. (for $exp(\beta)$)		
		β	exp(β)	Lower	Upper
Constant		-4.40			
Type of contract					
Full		0.23	1.264	1.163	1.375
Fixed		0.19	1.212	1.102	1.332
Apprenticeship		0.25	1.290	1.179	1.401
Other		0(b)			
Age					
Up to 24		-1.00	0.366	0.210	0.636
24-34		-0.40	0.664	0.547	0.806
Over 35		0.92	2.515	1.504	4.203
No preference		0(b)			
Experience					
In the same job		0.50	1.654	1.331	2.056
In the same sector		0.16	1.180	0.994	1.475
Generic work		-0.59	0.552	0.357	0.855
No required		0(b)			
Education					
Upper secondary		-2.40	0.084	0.067	0.105
Chemistry		8.01	3029.0	983.50	9328.81
Economics		0.09	1.103	0.843	1.444
Electronic Eng.		-1.40	0.251	0.187	0.338
Other Engineering		0.64	1.897	1.402	2.556
Math, physics		1.54	4.672	2.267	9.632
Other degrees		0(b)			
Language					
Required		0.29	1.333	1.260	1.411
No required		0(b)			
Computer					
User		-1.20	0.312	0.280	0.347
Programmer		1.43	4.209	3.707	4.780
No required		0(b)			
Training					
Training courses		-0.20	0.812	0.683	0.967
Other or no training courses		0(b)			
Hard to fill job					
Hard		0.71	2.041	1.645	2.533
No Hard		0(b)			
Gender					
Men		-0.46	0.634	0.590	0.681
Women		-0.89	0.420	0.38	0.463
No preference		0(b)		2	

[a] The reference category is: 0 Technical professions.
[b] This parameter is set to zero because it is redundant.
Source: Based on *Excelsior Information System Data, Rome , Years* 2003-2007

Table 13 (continue). Logistic regression – Recruitment Intellectual professions

			Asymptotic 95% C.I. (for *exp*(*β*))		
		β	exp(*β*)	Lower	Upper
Sectors of economic activity					
Other industries		0.31	1.372	0.833	2.263
Paper and printing		1.36	3.910	2.193	6.971
Mechanics and electronics		0.89	2.446	1.595	3.751
Chemicals		0.85	2.360	1.546	3.605
Construction		-0.81	0.442	0.261	0.749
Wholesale and retail trade (including repair)		-0.49	0.608	0.389	0.949
ICT		0.58	1.801	1.182	2.744
Advanced business services (excluding computer science)		1.22	3.417	2.232	5.232
Transport and postal activities		0.10	0.900	0.577	1.404
Banking, insurance and financial services		0.22	1.255	0.817	1.929
Other services		0.60	1.836	1.195	2.819
Professional activities		0.84	2.330	0.332	16.351
Private healthcare services		-4.20	0.015	0.009	0.024
Private education and training services		0(b)			
Size class					
1-9 employees		-1.10	0.326	0.202	0.528
10-49 employees		0.16	1.178	0.733	1.829
50-249 employees		0.81	2.262	1.389	3.684
250 + employees		0(b)			

[a] The reference category is: 0 Technical professions.
[b] This parameter is set to zero because it is redundant.
Source: Based on *Excelsior Information System Data, Rome , Years* 2003-2007

Moreover, graduated in electronic engineering over 35 years have high chance to be employed in intellectual professions, rather than in technical ones, maybe because an elder engineer is a guarantee of high general competence and skills. If graduates or electronic engineers have only a generic work experience, they have a better chance of being employed as managers and intellectual professions rather than as technicians.

Focusing on the link between the labour market and control variables, the relationship between education and further training courses points out how graduated in Economics and Engineering engaged in intellectual professions need some training. HSs are the basis to attain individual competitive position in the labour market, but other skills such as self-organization, critical thinking and communication are also relevant for specialist working roles. Thus, training courses are necessary to move forward in the career.
Finally, jobs in chemistry are those harder to fill (*exp*(*β*) = 2.150).

Table 14. Logistic regression – Interactions - Recruitment Intellectual professions[a]

				Asymptotic 95% C.I. (for exp(β))	
		β	exp(β)	Lower	Upper
Age	**Experience**				
Up to 24	In the same job	0.048	1.04	0.72	1.51
	In the same sector	1.030	2.80	2.09	3.75
	Generic work	0.743	2.10	1.33	3.30
	No required	0[b]			
24-34	In the same job	0.787	2.19	1.85	2.60
	In the same sector	0.162	1.17	0.99	1.39
	Generic work	1.165	3.20	2.34	4.39
	No required	0[b]			
Education	**Age**				
Upper secondary	Up to 24	1.18	3.26	1.881	5.667
	24-34	0.72	2.05	1.729	2.453
	Over 35	-0.50	0.60	0.426	0.848
	No preference	0[b]			
Electronic Engineering	Up to 24	1.62	5.05	2.095	12.192
	24-34	0.59	1.81	1.432	2.305
	Over 35	1.41	4.11	2.530	6.698
	No preference	0[b]			
Math, physics	Up to 24	1.61	5.01	1.549	16.210
	24-34	0.19	1.21	0.743	1.978
	Over 35	-0.31	0.73	0.328	1.641
	No preference	0[b]			
Education	**Experience**				
Upper secondary	In the same job	-0.20	0.81	0.654	1.008
		-0.23	0.79	0.641	0.994
	In the same sector	0.41	1.52	1.043	2.217
	Generic work	0[b]			
	No required				
Electronic Engineering	In the same job	-0.73	0.48	0.367	0.627
		-0.20	0.81	0.627	1.063
	In the same sector	1.03	2.80	1.736	4.544
	Generic work	0[b]			
	No required				
Education	**Training**				
Economics	Training courses	0.88	2.41	2.006	2.902
	Other or not training courses	0[b]			
Electronic Engineering	Training courses	0.97	2.63	2.129	3.269
	Other or no training courses	0[b]			
Other Engineering	Training courses	0.92	2.52	2.024	3.143
	Other or no training courses				
Education	**Hard to fill job**				
Chemistry	Hard	0.76	2.15	1.101	4.191
	No Hard				

[a] The reference category is: 0 Technical professions. [b] This parameter is set to zero because it is redundant.
Source: Based on *Excelsior Information System Data, Rome ,Years 2003-2007*

Table 15 gives an overview of the forecast accuracy of our estimated model, by comparing observed groups with the predicted ones. Our logistic model provides 90.1% of correct classification of those who hold a technical HS profession, and 77.0% of intellectual professions, with an overall correct prediction above 85%. Therefore, there is a probability of 85.3% to correctly forecast employment of a person with intellectuals' skills.

Table 15. Prediction performance of estimated model

Observed	*Predicted*		
	0 Technical professions	1 Intellectual professions	Percentage correct
0 Technical professions	36070	3965	90.1%
1 Intellectual professions	5284	17672	77.0%
Overall percentage	65.7%	34.3%	85.3%

Source: Based on *Excelsior Information System Data, Rome ,Years 2003-2007*

Discussion and implications

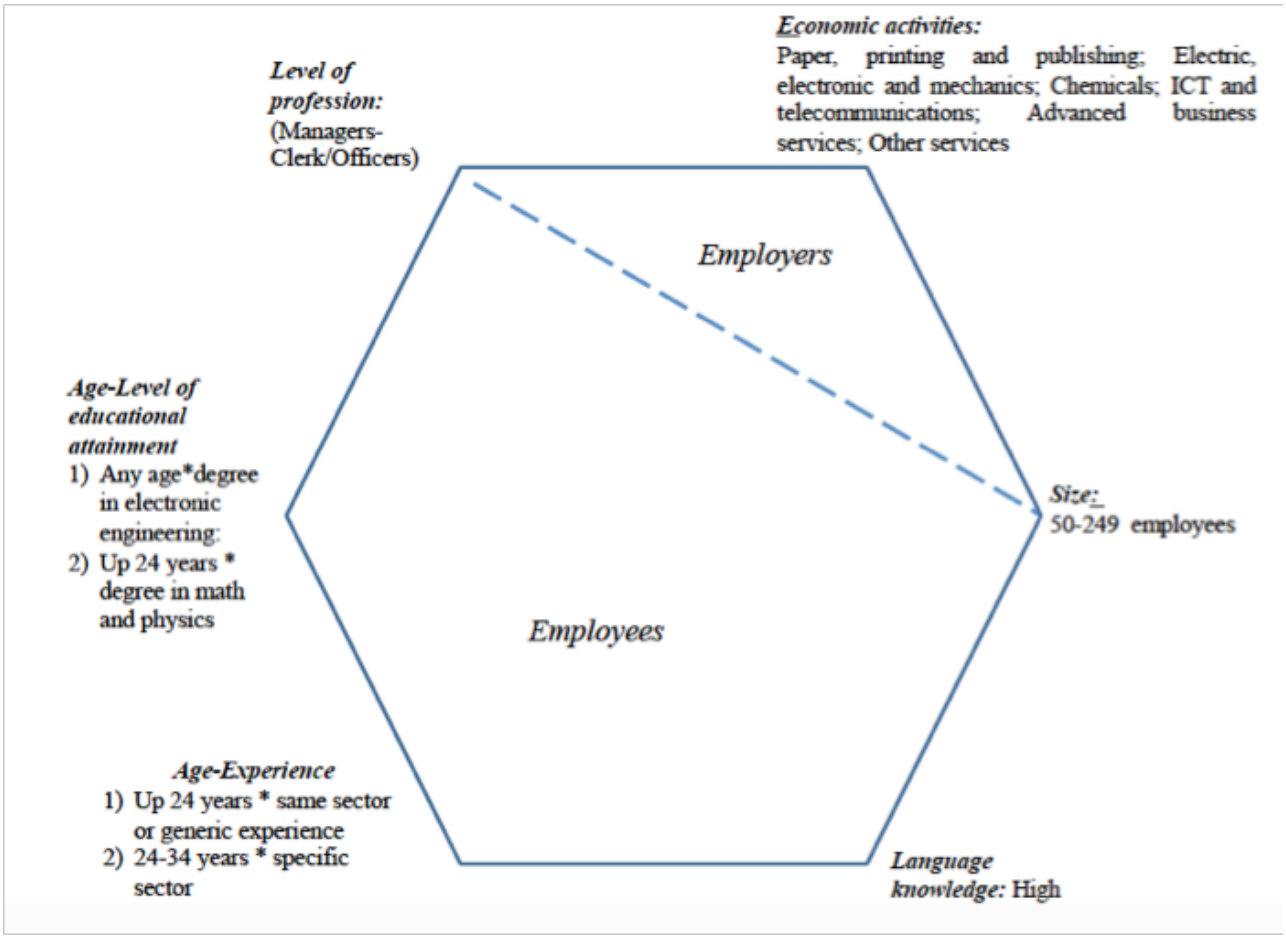
The main results of our empirical analysis of recruitment requests of skilled workers based on the synthesis of the survey data and on the estimated model, can be summarized through the map in Figure 1. It deploys the right talent in the right place at the right time, to align employees' strengths and aspirations with companies' goals. This tool can be a point of reference for enterprises that want to activate hiring plans for HSs or planning in innovation and export. The jobs of the future will require more advanced and specialized skills. The shortage between the demand and supply of talent is likely to continue to increase; therefore companies need to place greater emphasis on attracting human capital rather than financial capital. Companies able to foresee their business and workforce needs will have a decisive competitive advantage.

The Attract - Selection - Attrition (ASA) model in Figure 1 was originally developed in 1987 by Schneider, and is explained through the following steps:

- Attraction: individuals are attracted to companies that share aspects, objects and goals;
- Selection: the company search for and choose people who have characteristics similar to their own;
- Attrition: workers wouldn't find in the enterprise those qualities from which they have been attracted and therefore will not become adaptable to the work environment; therefore they will tend to abandon it.

As part of the "Recruiting HR" function, the ASA model can enable TM to support the company in the transformation of talent into HS, through training and learning. The main managerial implication of the use of an ASA model is to allow the TM to know exactly which are the skills it needs, in order to recruit individuals consistent with the model.

Figure 1 – The high skill map



Source: elaboration on the estimated model

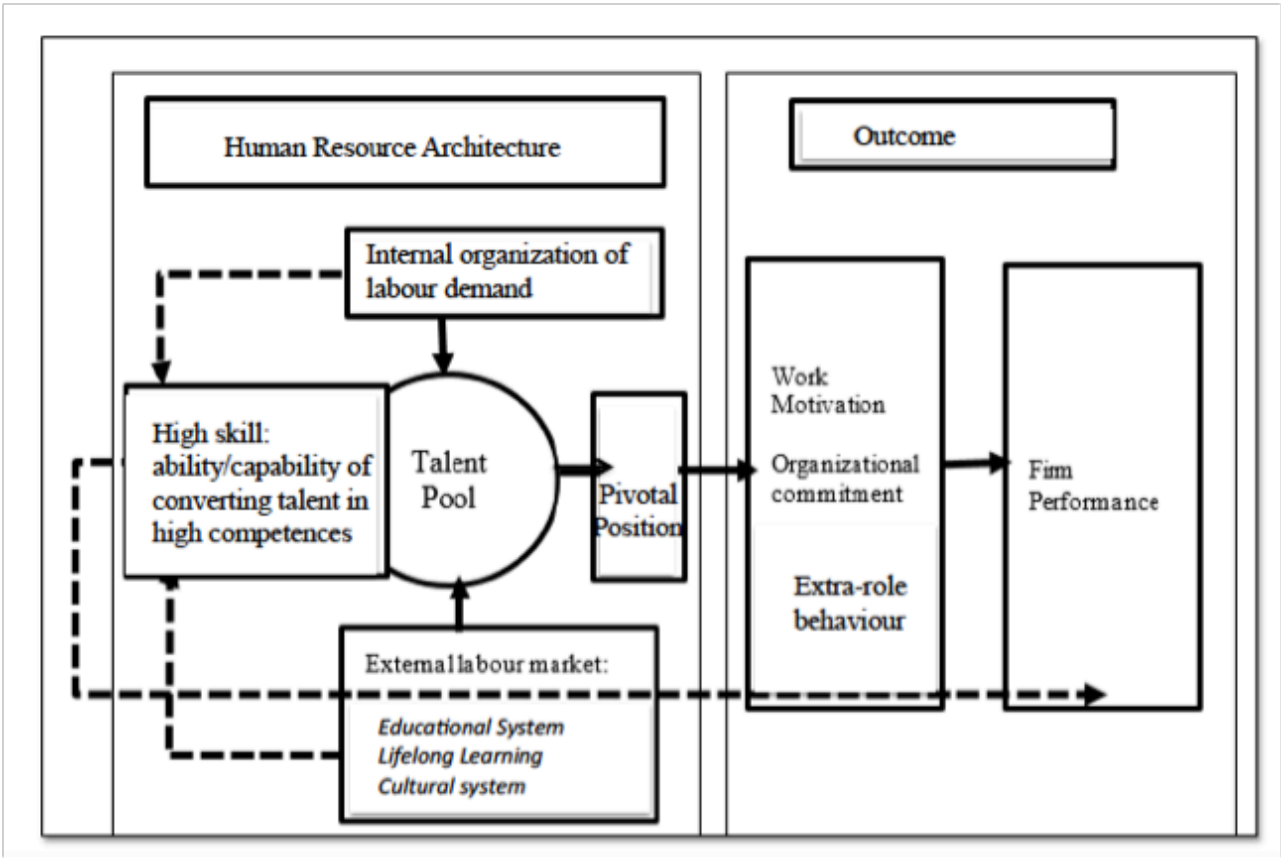
Following the logic under the ASA model, the workers with HSs are linked to the performance of the company. Therefore, companies do not recruit HS workers because they are in a recession period (Collings and Mellahi, (2009), but as a strategic step in TM (Figure 2). The companies should plan their recruitments on the basis of conscious forecast, based on available data. How it emerges from the authors, HS depends from company's capability to attract talented workers and from educational system to create and stimulate skilled talent.

The cluster "HS" profession contributes to the performance of the enterprise, thus it is a strategic element for the performance's company. This conclusion confirms the needs of anticipating the forecasts on HSs and the propensity of enterprises to hire skilled employees.

Our estimated model shows that it is possible to predict employability of HSs workers with high precision. The present analysis and its empirical results show that our suggested hypotheses are all confirmed by data (Figure 3).

The empirical analysis highlights that there is no correlation between HSs workers and the type of contract. The matter is not the type of contract, but the shortage of high-skills. Moreover, the propensity to hire high skilled workers is not typical of a recession time only.

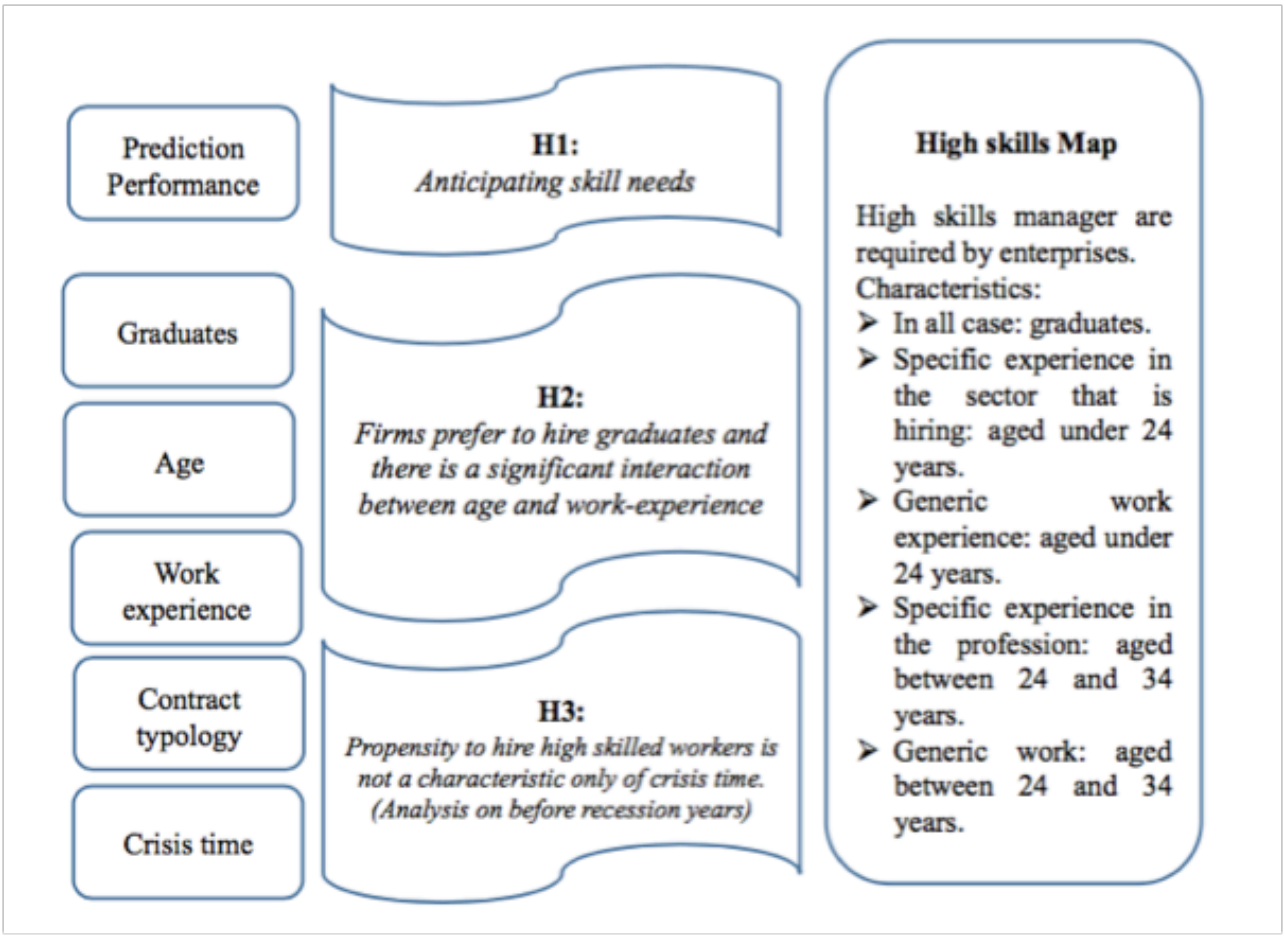
Figure 2 – High skills and strategic talent management.



Source: elaboration on Collings and Mellahi (2009: 304-313)

First of all, it is strategic to anticipate the skill's needs of enterprises, as they affect the decisions of businesses and firm performance. Human resources with high-skills are strategic, as mentioned in the introduction, and at the macro level, bargaining affects business decisions.

Figure 3. Hypotheses and high skill map



Looking at the relationship between age and work experience (H2), our empirical analysis gives different evidences. The combination age/work experience will differently affect the employability of high skilled workers:

- Young workers (up to 24 years) are employed if they have work experience in the same sector;
- Elder workers (with 25-34 years) also without a specific work experience.

Therefore, companies should have a human resource strategy differentiated with respect to age-experience: for each combination, they must configure different placement modes and development plans.

Moreover, the age is highly associated with the educational area. Companies prefer to employ young people (up to 24 years), if without a university degree, wherever Electronic Engineers are recruited also if over 35 years.

In brief, there is not a single element that defines the high-skill-professional, but the interrelationship of different elements that have a direct impact on the set of skills-knowledge-worker's experience.

The third hypothesis (H3) aims to verify if the search for "talent" is not typically of recession periods. Our analysis is based on observations in the period 2003-2007, before the starting of the global economic and financial crisis. Also in these years before the recession, companies were already looking for talent or the planned recruitments were already directed to the most qualified professions. Moreover, our results don't highlight a clear relation of employability with respect to contract typologies (H1), showing that non-permanent contracts are not an instrument able to match job supply and demand and can't be considered as a buffer against the crisis.

At a macro level, we proposed a map of the high-skills profile that takes into account the integration between worker's characteristics and those requested by the enterprises, in order to provide positive stimuli on social policies. The main actors in our scheme are the enterprises. However, for an enterprise and its survival, it is necessary that policy makers ensure the right balance between supply and demand. Awareness of all labour stakeholders of our results would allow building an educational system based on the educational degrees, which have greater employability. Policy makers should support more targeted educational policies, according to the real needs of the enterprises. In this way, individuals entering the labour market may have a skill profile more in line with that required by the market. The operators (i.e. mediators, employment centres, others) in the labour market can better support work supply, integrating real needs of the enterprises with the needs of the workers.

Conclusions

The success of an enterprise derives from the value of their working people, who are the holders of human and social capital. HS can be defined as the ability/capability of converting talent in high competences and represents, in this perspective, a pool of talent management. The knowledge-based economy is marked by increasing labour market demand for more highly skilled workers.

The main question is trying to identify which are the skills profiles in different jobs challenging to technological progress and to the shift to a knowledge economy. Understanding and anticipating skills needs can be useful information to enterprises, public institutions and individuals who are looking for a job. In the present paper we have proposed data and analysis to define the high-skills characteristics required by companies and to estimate firms propensity to employ high-skilled workers, by setting HSs in relation to the strategic management paradigm. The descriptive tables derived from the Excelsior survey and our estimated model may significantly improve the medium-term forecasting of required skills by employers.

Among others, our model showed that there is an interaction between age and experience that may give more in-depth information on the life-long learning process necessary to assure a high performance in the profession. Moreover, companies are looking for HS workers not only in recession periods, but skills and competences of employees are a component of firm's productivity, competitiveness and innovation.

Investment in skills is a crucial prerequisite for the long-term performance of a company. Talent management is therefore a part of the Recruiting Human Resource function, able to support the company in the transformation of talent into HS, through training and learning. How it emerges from Collings and Mellahi's model (2009), HS depends from company's

capability to attract talented workers and from educational system to create and stimulate skilled talent.

The research limit of the proposed study relies on the view of the labour market from a demand perspective (enterprises), and does not include complementary information on labour supply and its context. Moreover, our application is based only on Excelsior survey data of the province of Rome and in the period before the economic crisis of 2008. Finally, Excelsior database collects only information on Italy, limiting the use of the proposed analytical instrument on other geographical realities.

In the future we will test the research questions on different Italian territories and for different professional figures. In particular, we aim to set up a map of the recruitment propensity for SMEs for different professional categories. Furthermore, our research approach can be seen as the basis for a more in-depth analysis of the relationship between the ASA model and HSs in the perspective of strategic TM.

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Diagnosis analysis of emerging capital market health: A case study of the Nigerian stock exchange

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Abstract

This research paper develops the idea of carrying out a diagnostic assessment of emerging capital market health by measuring its quality. The significance importance of emerging capital market health with its resultant impact on their economies which serve as the basis for global economy projection and prediction made it imperative to carry out research in this area. Measuring this will ameliorate the resultant regulatory gap while enabling decisions and reforms made with scientific proof; not just on gut feelings. Research in this area contributes to the body of knowledge as emerging capital markets having realised their competitive advantages constantly engage in market design changes and market reforms to accelerate their growth for global relevance; which is not limited to robust trading platform and surveillance tool but direct and sponsor access, use of Fix protocol; and rule amendment. The goal of this paper is to empirically diagnose the health of emerging capital market based on efficiency and fairness using the Nigerian Stock Exchange as a case study. The analysis was conducted using NSE-30 as proxy for the entire equity listed on the Nigerian Stock Exchange. This comprise a 2 year period- March 2016 to February 2018. Data generated was measured for efficiency using transaction cost proxy by time weighted relative spread while integrity was measured by market manipulation proxy by marking the close alert. This diagnosis reveals that the reform taking place in the Nigerian stock Exchange has brought about a tremendous improvement in its health status hence greater market quality in terms of improved efficiency and greater integrity.

Keywords: Emerging market, Markets quality¸ Market integrity, Market efficiency, Market diagnosis.

Introduction

Market integrity and efficiency are Siamese twins of market quality which are the key goals of market regulators. The objective of this research is to carry out a scientific analysis of emerging capital markets health by measuring its quality using the Nigerian Stock Exchange as a case study being the giant in the Sub-Saharan Africa who has taken the giant stride of acquiring the smart surveillance software to eliminate trade based manipulation after acquisition of X-GEN, the next generation trading platform to boost trading in Africa which has brought about the advent of mobile trading technologies in the Nigerian capital market. This brought about direct access which made it possible in real-time, to buy, sell and monitor investments on the Exchange from homes and offices with the use of mobile phones which is aimed at enhancing liquidity and efficiency.

The Nigerian stock Exchange is proxies by NSE-30 being the most industrial wide index which comprises of 30 top companies in terms of capitalisation and liquidity with only

fully paid up common shares. The index fund takes a share of 92.81% of the total market capitalisation and 92.67% of total value traded which made it a suitable proxy for the total equity trading on the Nigerian Capital market (see Table 1 below).

The significance importance of emerging capital market health with its resultant impact on their economies which serve as the basis for global economy projection and prediction made it imperative to carry out research in this area.

This analysis is aimed at enhancing the integral part of growth process essential for local capital market development in one hand and a way of strengthening the developed market on the other hand thereby reinforcing the global economy. This study further expands our curiosity and thus poses several questions to mind: Are rules and their enforcement effective in mitigating manipulations?

How efficient is the Nigerian capital market after unprecedented intervention, several policy implementation and market design changes?

The failure to develop fair and efficient capital market has a resultant consequence on the economy of any nation (Aitken and Siow 2003). A sick capital market is like a time bomb waiting to be detonated which has greater impact on the economy and welfare of any nation. A better understanding of drivers of market quality will strengthen the emerging market in order to enhance and deliver their role as the catalytic enzyme to global market development.

Research in this area contributes to the body of knowledge as emerging capital markets having realised their competitive advantages constantly engage in market design changes and market reforms to accelerate their growth for global relevance; which is not limited to robust trading platform and surveillance tool but direct and sponsor access, use of Fix protocol; and rule amendment.

This will also contribute to the body of knowledge by stimulating conversation and promoting debate on this thematic and topical issue in global economic development .Health check of emerging capital market is also necessary to determine its status in order to proffer solutions based on scientific evidence and not gut feelings (Aitken. M.J., 2006)

2Despite ample submissions by international organisations like IMF, world bank group and G-20 as to the criticality of emerging market economy to global development in which capital market plays important role; little has being done in carrying out scientific research to analyse their health via capital market which is a major engine to technological advancement and infrastructural development that contribute to the catalytic growth of any nation.

Scholarly works in Nigeria focused on measuring the efficiency of the Nigeria stock market based on the three forms of efficient market hypothesis pioneered by Fama (1970). These three forms of efficient market hypothesis include weak form efficient market hypothesis, semi-strong and strong-form efficient market hypothesis.

Extensive study of the literatures shows that no empirical research has been carried out, using the Nigerian Stock Exchange data to analyse the health of emerging market; measuring their efficiency and integrity. Aitken and Siow (2003) ranked the world equity

market on the basis of integrity and efficiency in which the Nigerian Stock Exchange was obviously not included thus one of the motivations for the study. The ranking involved twenty-five world equity markets from the North American, European, Middle East and Asia- Pacific regions.

Research in this area will serve as acid test to the Nigerian stock Exchange being the giant market in the sub- Saharan Africa, which will help in influencing other African Stock Exchanges; and as a member of the world federation of exchanges measure its competitiveness among its global counterparts. This will further creates awareness of testing market design changes on efficiency and integrity before signing off in order not to jeopardise the primary function of capital markets (Aitken, M.J., 2006).

The study is thus organised as follows, next section discusses the importance of emerging market to global economic growth and definition of market integrity and efficiency and their significance as the overarching goal of Stock Exchanges worldwide. Section 3 presents appropriate methods to proxy and measure market quality as discussed above. Section 4 describes the data set and presents the findings of the research. Section 5 discusses conclusion and recommendation for further studies.

Emerging market and its relevance to the global economic development

Emerging markets over the years have attracted significant attention and are likely to become an increasingly important political and economic force. They provide huge opportunity for entrepreneurs, multinationals, and investors but also pose a threat for products, jobs, and resources (Khanna, Palepu and Carlsson, 2007). Emerging markets are described as the economies that will grow larger in the future thereby having greater impact on global trade and economics (Invstr, 2017). The voyage towards being transformed into developed nations necessitates industrialisation which positioned them for global relevance. They are classified as the economies of the future because of their large capacity for growth which is impetus to the world economic growth (Lipsky, 2007).

Productive gains in the developed market are dwindling due to lower work force, which is influenced by greater aging population with resultant reduction in their aggregate demands (Emmanuel, Anthony and Ogomegbunam, 2014).

Emerging markets also referred to as countries whose competitive advantages measured by the shares of GDP, exports, and outward foreign direct investment in the world are higher than the average competitiveness advantages of all countries except developed countries.

According to Black Rock Institute, emerging markets (EMs) have become veritable haven for investors over the last decade. Emerging and developing economies being the home to 85 per cent of the world's population (6 billion people) have being the engine behind the world economic sustainability (Largade 2016 and Hale 2012).

After the acronyms of BRICS for the biggest of the emerging markets with greater global relevance, which are Brazil, Russia, India, China and South –Africa; five emerging markets have been predicted as the five economic giants of the future which are Nigeria, Indonesia, Mexico, the Philippines and Turkey with new acronym "NIMPTs" with the potential to provide some of the most exciting growth opportunities for

consumer goods manufacturers. Indonesia and Nigeria has being noted to show the strongest real GDP growth between 2008 and 2013, averaging 6%, followed closely by the Philippines(5%). It was further reiterated that the five markets have larger demographic advantage with 75.6 million in Turkey and 247.2 million in Indonesia. They all witnessed growth in population over the review period with Nigeria hitting the highest rate, of 13% (http://www.euromonitor.com) [3]IMF (2017) Nigeria remains investors' destination of choice and thereby urges the nation's monetary and regulatory authorities to roll out policies that would reduce inflation rate and increase access to domestic funds to ensure the economy attains further growth in 2018.

Explicitly, this paper used Nigerian capital market being the giant in Sub-Sahara Africa as a case study for the research. The demographic advantage of teaming younger populations with the resultant rise in the domestic middle class and potential ability for deeper capital markets made it a veritable investment haven with the capability of spurring global economy.

More security exchanges have demonstrated their commitment to the twin goals of market efficiency and integrity; in which the Nigerian Stock Exchange is not left out in this regard. The Nigerian Stock Exchange stated on their website their Mission which is to "To Provide Investors and Businesses a reliable, efficient and adaptable Exchange hub in Africa to save and to access capital. So also their vision "to be African's most Securities Exchange driven by regulation, efficiency, liquidity and innovation[R-E-L-I].

It is otherwise imperative to investigate their level of commitment to their vision and mission statements by an empirical study of this nature.

It is important to research into this area as the benefit to be accrued from having a world competitive Stock Exchange is very enormous in this period in Nigeria economy with the menace of corruption, poor governance and resultant empty treasury ; insurgent attack which has almost crippled the economy.

Emerging markets have attained a critical mass in the world economy. As such, emerging markets should have a 25–40% allocation in a global equity portfolio .Over the past four years, the average growth rate of emerging market countries has been 6% or higher. In older industrial countries—such as the United States, Europe, and Japan—the growth rate has been less than 2% on average. Emerging market countries now collectively account for 36% of global GDP, compared with only 18% in 1995; about 50% of global exports, compared with 27% in 1990; and 50% of global capital spending, compared with 26% in 1990 David Hale Founding Chairman David Hale Global Economics Winnetka, IL https://www.cfapubs.org.

The IMF, at the last meeting in the United States, was pleasantly surprised to receive a large number of eager investors itching to invest in Nigeria. She however stated that many of them still nursed the fear that their funds would be trapped in Nigeria and that they may not be able to retrieve it whenever they decide to exit. The Sun Newspaper, (**14th December 2017***)*

Significance of efficiency and integrity

Market efficiency and integrity are the main objectives of establishing Stock Exchanges all over the world to regulate and protect investors. Research shows that the role of

intermediary played by pooling funds and making it available for productive purpose has being practiced as far as human existence (Temin 2004).

Market efficiency

This research made paradigm shift from defining market efficiency from the Fama approach as the efficiency of information arrival to the market place which lay more emphasis on the strong, semi-strong and weak market hypothesis but rather adopted a pragmatic approach of defining market efficiency as the capability of the market place to facilitate the realisation of the investors' investment speedily when needed; which is the ability to convert cash to stock and vice versa with minimal transaction cost instantaneously (Aitken and Siow 2004). From the definition above, transaction cost is adopted as the efficiency metrics which is otherwise proxy by time weighted relative spread based on the availability of data.

As opposed to using all the listed securities, some of which trade by appointment, this research adopted the approach of using NSE-30 index whose components accounted for 92.81% of the total market capitalisation and 92.67% of total value traded which made it a suitable proxy for the total market equity trading on the Nigerian Capital market.(see table 2) The time weighted relative spread for each security in the index is calculated and simple average taken to arrive at time weighted average for NSE-30.

Integrity

Capital markets are efficient if they attract capital and investors ;and permit efficient allocation of resources, aimed at boosting economic growth and prosperity. As a result, the integrity of the market place and the protection provided to investors are of paramount importance (EIWG).

However, it is imperative to emphasise market integrity as a measurable elements. According to Austin (2014) accepting market integrity as a normative concept incapable of measurement might impede the efforts of security regulators in achieving their goal.

This research will shy away from accepting market integrity as a normative concept incapable of measurement. A review of the trading activity on the Nigerian Stock Exchange shows that NSE-30 accounted for 92.67% of total value traded and vast majority of these transactions take place in the last hour of the trading days. This informed the choice of using the marking the close alert as proxy for evaluating market integrity. (See table 4 and Graph 3).

The G20 and major Stock Exchanges around the globe have declared their commitment to assurance of market integrity which is crucial to actualisation of market quality. There is a compelling public interest in regulators taking action to maintain and improve market integrity. Securities markets are vital mechanisms by which corporations can access funds from investors in order to grow. Such investment is dependent, to a large extent, upon investors having confidence that the market is fair. Market integrity is therefore important to promoting investment, which is, in turn, important to the economic development of a country (Austin 2015).

According to IMF (2017) Nigeria remains investors' destination of choice. The demographic advantage of teaming younger populations with the resultant rise in the

domestic middle class and potential ability for deeper capital markets made it a veritable investment haven with the capability of spurring global economy.

Data

Data for the study is obtained from the Nigerian Stock Exchange. This data contain intra-day trade, order management events (order entering, amendment and cancellation) and daily marking the close and reversal alert. Based on the justification stated earlier NSE-30 is adopted as proxy for the total equity listed on the exchange. The data contains 30 top securities for two years period [March 2016- February 2018]. The period under question was adopted as the data needed for the purpose of this study was difficult to obtain prior to the launching of Smart Surveillance tool which was acquired and launched by March 2016. It is imperative to note that, data for time weighted relative spread became available since the acquisition of X-GEN trading engine (2013) but for proper analysis, this study will also adopt the two year period available for market integrity proxy for the purpose of consistency.

Efficiency

The Efficiency Analysis is done using relative spreads as a proxy. Relative spread is calculated for each company per day and then summarized over a month.

How do we calculate relative spread?
Each day trading activities is examined during the continuous market period (10:15 am to 2:30 pm) on the NSE 30.

How to calculate Relative Spread and Time Weighted Relative Spread

a. Generate the top of the order book (best bid/ask) for each security at every point in the day during that continuous trading session. Each change in the top of the order book (occasioned by new orders coming in, trades, and order withdrawals/ cancellations) is time stamped and a new top of order book record is determined.
b. Examine all those top of book records and calculate the relative spread for that point in time and also store how long (in microseconds) that particular spread existed. Do so only for valid spreads; when both bid and ask exist and bid is lower than ask - so no negative spreads.
c. The relative spread is simply the spread (ask - bid) divided by the mid-point (to signify a proxy trade price) i.e. (ask + bid)/2. The division is what makes it into a relative spread and this more or less turns the spread into a % and thus harmonizes the differences in individual equity prices.
d. The relative spread record for each day has the arithmetic average of relative spread computed, each relative spread multiplied by the time then summed up and divided by the total time for all spread records for that day to get Time Weighted Average Spread (TWAS).
e. To then get the monthly analysis, then group the data for each day by month.
f. Then group the monthly based on the components of NSE30.

By graphing all this data over the research period (March 2016 to Feb 2018).The average relative spreads (basic & time weighted) over that time plotted on the primary axis, while the percentage of time we had spreads (which in a way reflects market interest in those securities and liquidity) is plotted on the secondary axis.

Integrity

This research used marking the close alert to proxy for the presence of market manipulation. The trading day is sliced into 17 segments of 15minutes each- 10:15-2:30. The observation begins from 10:15am which is the time the continuous trading session begins and closes by 2:30pm. The observations show the number of trades occur in each 15 minutes segment. This analysis reveals that the vast majority of trades on the Nigerian Stock Exchange happen on a normal trading day in the latter segments from about 1pm onward which account for the last six segments. It is observed that the number of deals increase in arithmetic progression from 10:30am- 2:30pm.The time segmentation further reveals 2:15-2:30pm accounts for the last segment on the time slice table records the highest number of deals-538,218 out of 4,477,478.This unique characteristic of The Nigerian Stock Exchange with spurious trading activities at the latter period creates curiosity for investigating manipulation using marking the close alert (see table below in the appendix).

From the result of the observation above, the study will be constrained not to use reversal the next day alerts in conjunction with marking the close to form basis for ramping as a form of manipulation. The result shows that more than 50% of the trading activities take place at the last segments between(12:15- 2:30)pm which implied that the retail, institutional and foreign players on the floor of the Nigerian stock Exchange trade at the closing hour. Specifically, from the bar chart plotted below, the last segment has the largest number of deals which informed the appropriateness of marking the close alert as proxy for market manipulation..

Descriptive statistics

Components of NSE-30

This is an industrial wide index which comprises of most traded and liquids stocks ranging from banks to food, petroleum, breweries, financial institution and transnational corporation which attract the attention of retail, institutional and international investors. The companies are arranged in order of their market capitalisation and percentage share of their market capitalisation in the index.

Table 1 – Component of NSE30 Index

S/N	Symbol	Equity Name	Market Cap	%Market
1	DANGCEM	DANGOTE CEMENT PLC	4,498,693,954,920.00	32.29
2	GUARANTY	GUARANTY TRUST BANK PLC.	1,321,459,947,157.60	9.48
3	NESTLE	NESTLE NIGERIA PLC.	1,093,865,627,760.00	7.85
4	NB	NIGERIAN BREW. PLC.	1,063,587,972,783.00	7.63
5	ZENITHBANK	ZENITH INTERNATIONAL BANK PLC	866,543,228,493.60	6.22
6	STANBIC	STANBIC IBTC HOLDINGS PLC	502,473,286,550.00	3.61
7	INTBREW	INTERNATIONAL BREWERIES PLC.	489,964,130,352.00	3.52
8	SEPLAT	SEPLAT PETROLEUM DEVELOPMENT COMPANY LTD	447,217,866,360.00	3.21
9	FBNH	FBN HOLDINGS PLC	419,974,925,666.40	3.01
10	UBA	UNITED BANK FOR AFRICA PLC	381,323,548,253.20	2.74
11	ETI	ECOBANK TRANSNATIONAL INCORPORATED	363,321,114,057.00	2.61
12	ACCESS	ACCESS BANK PLC.	337,010,869,501.15	2.42
13	UNILEVER	UNILEVER NIGERIA PLC.	305,347,037,913.55	2.19
14	WAPCO	LAFARGE AFRICA PLC.	295,516,086,501.00	2.12
15	DANGSUGAR	DANGOTE SUGAR REFINERY PLC	250,800,000,000.00	1.80
16	GUINNESS	GUINNESS NIG PLC	219,476,358,463.80	1.58
17	UBN	UNION BANK NIG.PLC.	195,109,043,679.60	1.40
18	FLOURMILL	FLOUR MILLS NIG. PLC.	99,721,013,106.00	0.72
19	PZ	P Z CUSSONS NIGERIA PLC.	91,320,972,035.00	0.66
20	TOTAL	TOTAL NIGERIA PLC.	83,556,324,085.70	0.60
21	DANGFLOUR	DANGOTE FLOUR MILLS PLC	77,500,000,000.00	0.56
22	PRESCO	PRESCO PLC	72,500,000,000.00	0.52
23	TRANSCORP	TRANSNATIONAL CORPORATION OF NIGERIA PLC	68,695,103,595.17	0.49
24	OKOMUOIL	OKOMU OIL PALM PLC.	68,681,520,000.00	0.49
25	FIDELITYBK	FIDELITY BANK PLC	66,931,781,123.13	0.48
26	MOBIL	11 PLC	63,572,944,690.60	0.46
27	FO	FORTE OIL PLC.	57,309,168,532.00	0.41
28	NASCON	NASCON ALLIED INDUSTRIES PLC	53,518,655,235.60	0.38
29	DIAMONDBNK	DIAMOND BANK PLC	44,467,946,818.56	0.32
30	JBERGER	JULIUS BERGER NIG. PLC.	32,736,000,000.00	0.23
	Total		13,932,196,427,633.70	100.00

Justification for NSE-30 as the proxy for total listed and trading securities on the Nigerian stock exchange

The Stocks are selected based on their market capitalization from the most liquid sectors. The liquidity is based on the number of times the stock is traded during the preceding two quarters. To be included, the stock must have traded for at least 70 per cent of the number of times the market opened for business. From the table below NSE-30 accounted for 92.81% of the total market capitalisation while the remaining 140 securities accounted for 7.19%. Furthermore, NSE30 accounted for 92.67% of the total value traded, while the remaining 140 securities accounted for 7.33% of the total value traded.

Table 2

Class	Market Cap	% of Market Cap	Value Traded	%Value Traded
NSE30	13,932,196,427,633.70	92.81	1,973,330,687,852.27	92.67
OTHERS	1,079,391,051,170.73	7.19	156,026,849,020.91	7.33
Grand Total	15,011,587,478,804.40	100.00	2,129,357,536,873.18	100.00

Result

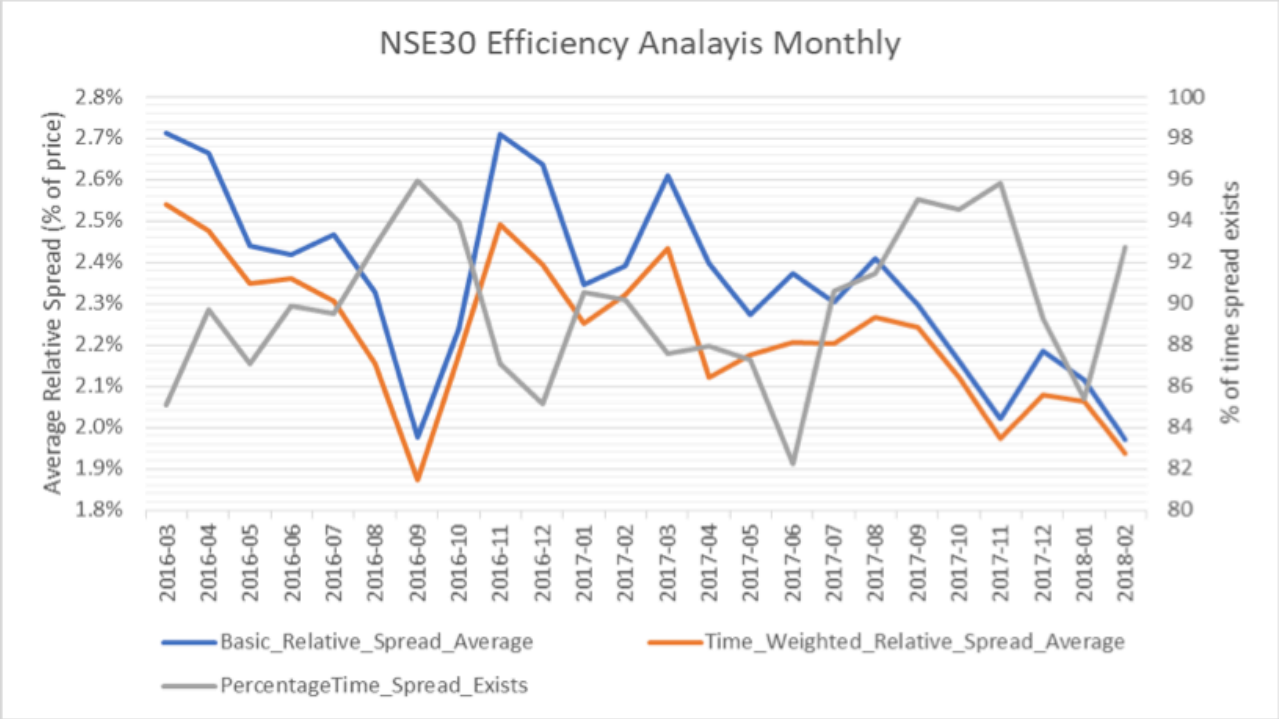
Measure of efficiency for NSE-30 Index

The table below shows the average relative spread and time weighted relative spread on a monthly basis for NSE30 index from March 2016 to February 2018.
From the analysis in the table below, the time weighted relative spread for the first month is 2.539% and it dropped by 23.75% to close at 1.936% on February 2018. The highest weighted relative spread is recorded in March 2016 while the lowest value recorded 1.8375% is in September same year. The average value for the period of this research is 2.230%.

Table 3 – Time Weighted Relative Spread

Info	YrMonD	Month_Da	Basic_Relative_Spread_Av	Time_Weighted_Relative_Spread_A	PercentageTime_Spread_Exists
NSE30_Summary	201603	2016-03	2.713%	2.539%	85.1205
NSE30_Summary	201604	2016-04	2.666%	2.475%	89.7219
NSE30_Summary	201605	2016-05	2.439%	2.350%	87.1127
NSE30_Summary	201606	2016-06	2.418%	2.360%	89.908
NSE30_Summary	201607	2016-07	2.468%	2.308%	89.5464
NSE30_Summary	201608	2016-08	2.329%	2.154%	92.7729
NSE30_Summary	201609	2016-09	1.978%	1.875%	95.9398
NSE30_Summary	201610	2016-10	2.241%	2.176%	93.9605
NSE30_Summary	201611	2016-11	2.708%	2.492%	87.1114
NSE30_Summary	201612	2016-12	2.637%	2.395%	85.1655
NSE30_Summary	201701	2017-01	2.346%	2.252%	90.5858
NSE30_Summary	201702	2017-02	2.393%	2.323%	90.1645
NSE30_Summary	201703	2017-03	2.610%	2.435%	87.5709
NSE30_Summary	201704	2017-04	2.398%	2.121%	87.9282
NSE30_Summary	201705	2017-05	2.275%	2.177%	87.2867
NSE30_Summary	201706	2017-06	2.374%	2.208%	82.2511
NSE30_Summary	201707	2017-07	2.304%	2.203%	90.6292
NSE30_Summary	201708	2017-08	2.409%	2.269%	91.4558
NSE30_Summary	201709	2017-09	2.299%	2.243%	95.0312
NSE30_Summary	201710	2017-10	2.162%	2.121%	94.5498
NSE30_Summary	201711	2017-11	2.022%	1.975%	95.8517
NSE30_Summary	201712	2017-12	2.186%	2.080%	89.3042
NSE30_Summary	201801	2018-01	2.115%	2.065%	85.428
NSE30_Summary	201802	2018-02	1.970%	1.936%	92.7648

Graph 1 – NSE30 Index Efficiency Analysis



Market integrity analysis
Marking the Close Alert

A total of 36 marking—the- close alerts are generated in the first 10 months the year smart surveillance software is acquired (2016) which gives an average of 3.6 alerts per month while the same 36 alerts are generated 12months the subsequent year(2017) resulting in the average of 3.0 alerts per month. The last two months of the analysis period (January and February, 2018) generated 3alerts with the average of 1.5 alerts per month. The lowest alert was generated in February 2018, followed by 1 alert in June, 2016 and July, 2017. The highest alerts of 7 were generated in March, 2017.

Table 4 – Number of Marking-the-Close (MTC) Alerts

Month	Number of Alerts
2016	
Mar	5
Apr	2
May	3
Jun	1
Jul	2
Aug	6
Sep	3
Oct	5
Nov	3
Dec	6
Total	36
2017	
Jan	2
Feb	4
Mar	7
May	3
Jun	5
Jul	1
Sep	3
Oct	3
Nov	3
Dec	5
Total	36
2018	
Jan	3
Feb	0
Grand Total	75

Graph 2 – Number of MTC alerts Per Month

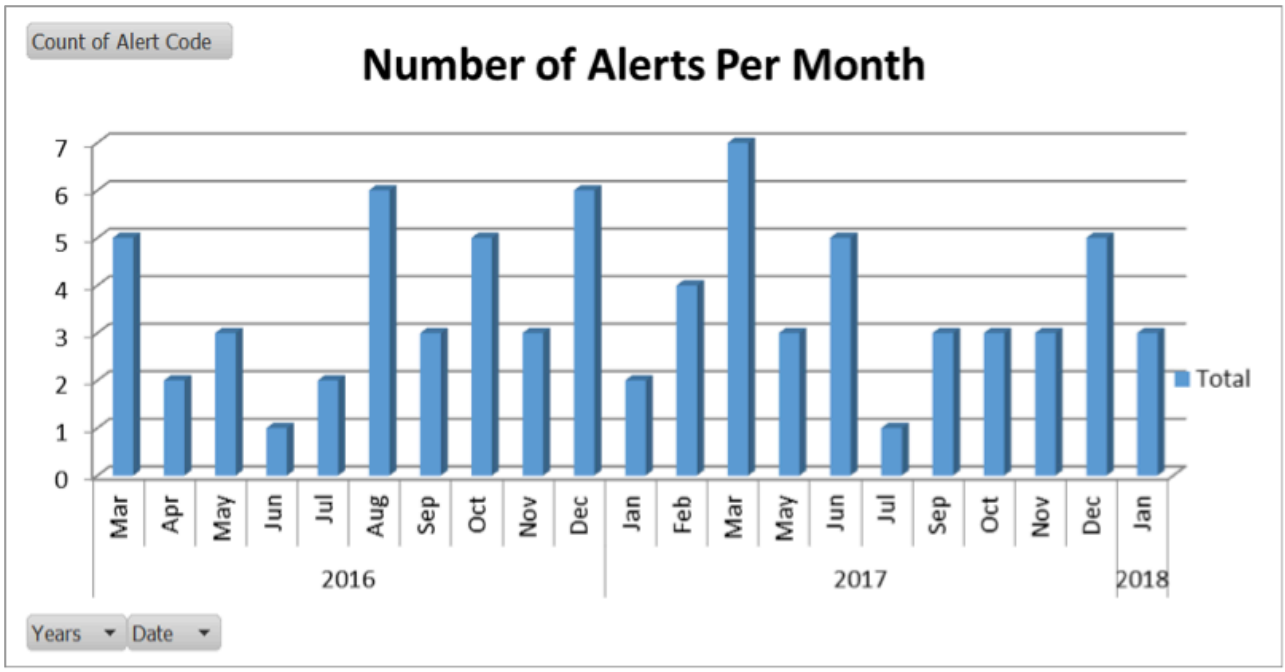
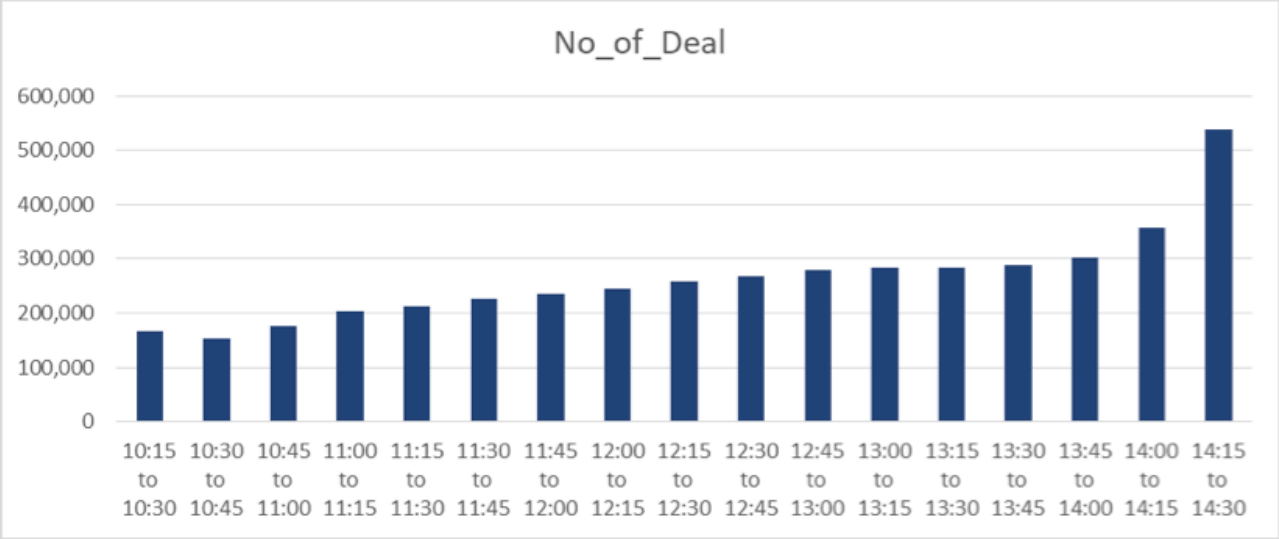


Table 5 – Number of Deals per Time frame

Time_Range	No_of_Deal	% of Total
10:15 to 10:30	166,271	3.71
10:30 to 10:45	154,196	3.44
10:45 to 11:00	174,914	3.91
11:00 to 11:15	203,350	4.54
11:15 to 11:30	212,723	4.75
11:30 to 11:45	225,410	5.03
11:45 to 12:00	235,288	5.25
12:00 to 12:15	244,596	5.46
12:15 to 12:30	257,809	5.76
12:30 to 12:45	268,353	5.99
12:45 to 13:00	279,352	6.24
13:00 to 13:15	284,573	6.36
13:15 to 13:30	285,005	6.37
13:30 to 13:45	287,790	6.43
13:45 to 14:00	301,262	6.73
14:00 to 14:15	358,368	8.00
14:15 to 14:30	538,218	12.02
Total	4,477,478	100.00

Graph 3 – Number of Deals per Time Frame



Conclusions and further research

From the analysis and the result above, the time weighted spread during the period under analysis reduced from 2.539% in March 2016 to 1.936% in February 2018 which signifies 23.75% reduction in time weighted relative spread. Significant reduction in time weighted relative spread above is an indication of tighter spread thus reduction in transaction cost (trading cost) which contributes to the efficiency of the market.

Marking the close alerts also experienced a reduction from 3.6 alerts per month in the year 2016 to 3.0 alerts per month in 2017 and 1.5 alerts per month in 2 months period in 2018. This reduction is evidenced that there is eminent reduction in market manipulation which indicates higher integrity. This scientific investigation thus shows that rules and their enforcement are effective in mitigating market manipulation.

It will be right to conclude that the efforts of the Nigerian Stock Exchange which is not limited to acquisition and installation of a robust trading and Surveillance software but amendment and enforcement of rules couple with market design changes have all contributed in no measure to the attainment of improved market quality. The result above has been able to answer the two research questions posed earlier.

Research in efficiency and integrity of The Nigerian Capital Market is timely in strengthening the economy by attracting both institutional and foreign investor based on the positive outcome of this research. Measuring compliance of the rules and their enforcement through market manipulation metrics will enable the Nigerian Stock Exchange to be more proactive in these area and invariably influence other African Stock Exchanges through the West African Capital Market Integration Council (WACMIC) which was established to harmonize a regulatory environment for the issuance and trading of securities across the West African Sub region. Evidenced based improved market quality through scientific diagnoses of Nigerian capital market health will put the Exchange in position of a pacesetter for other emerging markets.

This improved market quality is no doubt the scientific reasons for the Nigerian Stock Exchange achievement in 2017.S&P Dow Jones Indices ranked the Nigerian Stock Exchange (NSE) as one of the 5 best capital markets in the world for 2017.The rating agent confirmed that Nigerian Stock Exchange grew by 42 per cent in 2017 which classified it third-best performing capital market after Argentina, Turkey, Hong Kong and the United States. In 2017, the Nigerian Stock Exchange closed the year on a positive note, as the NSE All-Share Index returned 42.30 per cent year- on- year while the market capitalisation grew positively to close at N13.61tn as opposed to N9.25tn recorded at the end of 2016. The volume of transaction on NSE appreciated by 6.94 per cent and, value of trades by 108.50 per cent. This however, confirms return of investors' confidence in the market.

One of the limitations of this study is inability to combine open reversal alert with marking the close in order to have a strong justification for the presence ramping as a form of market manipulation. Unavailability of public data and time constraint are strong limitation to the scope of the research.

Recommendation for further study

Using the total equity listed on (NSE) the exchange for more holistic view of the market is recommended for further study.
For an all-inclusive research, it is recommended that the study should be extended to other assets class such as Bonds, Exchange Traded Products (ETPs) and Derivatives.
Ranking the newly identified emerging markets Stock Exchange (NIMPTS) is recommended to aid their emergence into developing economy.

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ACCRONYMS

EIWG: The **Education Innovators Working Group** (**EIWG**) is an international partnership between cutting edge universities working in alignment with Big Beacon.

IMF- International Monetary Fund

EM- Emerging market

NSE- The Nigerian Stock Exchange

Creating Shared Value based on Relational Benefits: A Case of Korean CJ Group's Project in Vietnam

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Abstract

Most of the existing CSR researches are based on specific industry cases. Large corporations are increasing CSR and CSV activities across the world as they expand overseas. As such, this study proposes necessary factors for successful global CSR or CSV activities especially how to strengthen relationships between corporations and beneficiaries or stakeholders. This article explores a Korean multi-industry conglomerate CJ Group's rural development project in Vietnam to identify strategic factors for approaching creating shared value(CSV) and its successful realization in global setting. It aims to identify important strategic factors for successful global CSV activities, which is relationship between corporation and society, community and its residents. These relationships are so important, it deserves to be identified separately and the relational benefits frame was used in this case. CJ Group's Ninh Thuan Province agricultural development project is characterized by the pursuit of sustainable relationship-oriented development with the region and residents that go beyond creating business and economic value. Hence the research results show that establishing a basic social infrastructure and environment is required for pursuing global CSV activities. And psychological benefits can be provided after securing trust with corporations in different countries by taking cultural differences into consideration.

Keywords: Creating Shared Value, Relational Benefits, Global CSV, Vietnam, Agricultural Development

Introduction

Since the early 2000s, corporations worldwide have been engaging in philanthropic activities due to market changes that favored companies that shared values with consumers rather than those that focused on influencing them (Janggu, et al., 2007; Scherer & Palazzo, 2011). Porter & Kramer described Creating Shared Value (CSV) as a corporation creating economic value for its business at the same time creating a social value to enhance competitiveness of the society it operates(Porter & Kramer, 2011). Porter & Kramer argued that both economic and social development should approach from the value creating point of view because value is relevant term in relation to effectiveness (Porter & Kramer, 2011). And the competitiveness of a corporation and health of the society is mutually dependent and therefore CSV aims for maximizing corporate profit and maximizing social development of the society at the same time (Park & Kim, 2013).

Porter & Kramer suggested CSV in three ways: First, reconstruction of product and market, second, change in value chain, and third, creating a geographical cluster (Porter & Kramer, 2011). Based on the sustainable competitiveness model developed by Porter & Kramer (2011), CSV activities have been spreading, especially as emerging markets are discovered based on social needs and their demand conditions are further developed. For example, Wal-Mart has been supporting farmers in the developing countries to teach them agricultural technology. Farmers gain from the enhanced productivity and Wal-Mart secured safe, good quality farm product. Taking the competitive technological era into consideration, conditions within value chains such as education and technological environments have been further developed. For example, CJ's group's CJ Cheiljedang, the largest food company in Korea is working with small- to medium traditional Korean food companies. In order to preserve traditional Korean food production method, CJ provided these companies with funding, consulting, and distribution channels. In doing so, CJ was able to grow traditional Korean food market and ensure competitiveness in traditional Korean food.

At the same time, industrial clusters with local partners such as the integration and sharing of raw material, logistics, and environmental infrastructures have been created. As a result, companies have secured sustainable competitiveness, and social investments have enabled the region and society to gain growth engines. This has contributed to corporate value strategies that create virtuous cycles (Kim, et al., 2012).

When Corporations are engaged in CSV in a global setting, corporations are often redefining value chain productivity. Their value chain is related to and influenced by various social issues, including preserving natural resources and water, improving employees' and residents' health, safety, and working conditions, and elimination of workplace discrimination. Because these social issues increase economic costs for corporate value chains, corporations engage in social value creation in order to solve such issues. Therefore, corporations cooperate and form networks with a variety of stakeholders including government, NGOs, community and educational institutions to create social values that go beyond partnerships with workers, regions, and other corporations. Forming such relationships strengthens relational benefits for corporations and emphasizes the importance of maintaining cooperative relationships with stakeholders. In the case of these global CSV(here in after, use 'Global CSV' as CSV activities where corporation carries out CSV activities in another country than its origin), resolving issues related to relationship management based on trust and authenticity is necessary to encompass national and cultural differences.

Such CSV activities are actively promoted by large corporations from developed nations through collaborative methods. In India, for example, Thomson Reuters has launched a service for farmers that have an average annual income of less than $2,000. For just $5 a quarter, these services provide weather forecasts, farming information, and farming legal advice. Two million farmers currently use this service, and as a result, over 60% of farmers have increased their earnings as their income tripled. In addition, Coca-Cola is supporting small farmers in Africa to grow tropical crops as well as local women to open small retail stores. The company has opened 3,200 stores in regions with poor transportation infrastructure for truck deliveries, creating 19,000 jobs and increasing sales by $960 million. As such, companies will be able to reform markets to meet the needs of marginalized markets as well as increase income for low income groups, securing new markets or regions for cooperation.

Through this, they will be able to secure sustainable competitiveness as a global corporation.

Korean corporations are engaging in global CSV activities in developing countries around the world, focusing first on Southeast Asian countries such as Vietnam and Myanmar. They are going beyond corporate social responsibility (CSR) activities of the past that focused on support and donations, to create markets that encourage regional development and to establish, as well as establishing supply networks by building mutually beneficial win-win relationships.

This study examines the shared value creation using relational benefits theory. Specifically, it considers the Korean CJ Group's project in Vietnam. The activities of the corporation were analyzed based on the relational benefits. In doing so, this paper aims to identify important strategic factors for successful global CSV activities, which is relationship between corporation and society, community and its residents. These relationships are so important, it deserves to be identified separately and the relational benefits frame was used in this case.

Most of the existing CSR researches are based on specific industry cases. Large corporations are increasing CSR and CSV activities across the world as they expand overseas. As such, this study proposes necessary factors for successful global CSR or CSV activities especially how to strengthen relationships between corporations and beneficiaries or stakeholders.

Theoretical Background

Global Creating Shared Values

In today's volatile business environment, sustainability and social responsibility have become two of the main areas of business for corporations. As such, strategies that balance corporation's growth and that of society are becoming more important (Weber, 2008). CSR may contribute to improving firm profitability (Burke and Logsdon, 1996). And corporate social responsibility (CSR) became a source of good and a wellspring of innovation, competitive advantage and value creation for the firm (Husted & Allen, 2007). Corporations can expect more sustainable growth when their business decisions take into account the social value they create and keep the social value creation as their principle (Bowen, 1953; Yin & Jamali, 2016). Such discussions regarding CSR were developed into the idea of CSV after 2011(Bondy & Starkery 2014).

Creating Shared Value (CSV) refers to activities that achieve corporate innovation that proactively solves social issues and creates social and economic value at the same time (Jeon & Kim, 2013). It is becoming recognized as a new business strategy that redistributes profits generated by corporations to help corporations and grow society at the same time (Kwon et al., 2013; Porter & Kramer, 2006). In contrast with CSR activities, CSV activities are characterized by linking social issues to corporate business strategies and activities. For example, if CSR refers to a corporation taking initiative to solve poverty in a developing country, CSV refers to improving farming practices and establishing infrastructure and support systems for farmers so that the corporation and region can benefit together (Porter & Kramer, 2011). Ultimately, CSV is implemented by considering the corporation's core competencies and values. As such, emphasis is placed on plans that create economic profits for the corporation and also

solve social needs through products and services while innovating the value chain on developing industrial clusters.

Many corporations are actively engaged in activities that create globally shared values that discover new business opportunities and create new markets during the process of providing products and services to underdeveloped communities or developing countries. Compared to other classes, those in poverty have the most urgent social needs, however, they have not been recognized as markets. However, bottom of the pyramid market or base of the pyramid(BOP) theory has been recognized as having the potential for billions of consumers. As such, various stakeholders including governments, nonprofit organizations, and volunteering services have engaged in innovative CSV activities with this class (Prahalad, 2010; Shin, 2012).

World-class CSV success stories include production of products that satisfy the needs of low-income classes as well as creating jobs for marginalized groups. This emphasizes the need for establishing industrial clusters that properly converge regional suppliers, infrastructure, and talented manpower in order to secure corporate competitiveness and to achieve co-growth with society (Porter & Kramer, 2011).

In particular, various global CSV activities are underway for those in poverty in developing countries. Some of the representative examples of these global CSV activities are : consumption-generating CSV that creates products and services taking the inadequate social infrastructure and economic conditions of the world's poor into consideration; self-sustaining CSV that supports economic independence through direct and indirect participation of low-income classes of the region; and multi-cooperative CSV that incorporates infrastructure improvement and environmental cooperation to revitalize cooperation with regional organizations to activate the local economy for social development (Shin, 2013).

Table 1 explains most academics and business scholars have witnessed how CSR has transformed from an irrelevant and marginalized ideas. This gradual rationalization of CSR has entailed a noticeable shift in terms of theoretical orientations in the academic field. Particularly since the late 1990s and early 2000s, CSR has often been coupled with the strategy literature (Hart, 1995; Kanter, 1999; Porter & Kramer, 2006), with interesting emerging threads and insights.

There is significant rationalization of the account that CSR is beneficial to the bottom line, at least when using a long-term and value creation perspective (Eccles & Krzus, 2010; Husted et al., 2015). CSR is no longer conceived as purely a moral or social responsibility for the common good, but increasingly as a potential strategic resource to be leveraged to improve corporate financial performance, reputation, brand and customer relationships (Godfrey, 2005; Schuler & Cording, 2006).

Table 1. Definitions of Corporate Social Responsibility

Section	Researcher	Main Concepts
1950s	Bowen (1953)	Emphasized corporate social value and responsibility
1960s	Eells & Walton (1961)	Emphasized corporate social responsibility from an ethical perspective
1970s	Sethi (1975) Carroll (1979)	Emphasized desirable social roles and leadership which corporations must undertake within a dynamic social system
1980s	McFarland (1982) McGuire et al. (1988)	Argued for understanding of mutual dependency between stakeholders
1990s	Carroll (1991, 1998) Brown & Dacin (1996)	Emphasized solving social and economic problems that originate from corporate activities
2000s	McWilliams & Siegel(2006) Porter & Kramer(2006) Kotler & Lee(2005)	Argued for achieving social and economic goals through corporate management activities based on strategic contributions that provide long-term profits

Global CSV strategies must be aligned with corporate business strategies. These strategies must be actively reflected in a corporation's overall activities from the start, including planning, production, and marketing. The corporation needs to focus on core commercialization that is based on sustainable profit generation business model rather than one-time activities. Successful global CSV projects are achieved through partnerships with various organizations such as governments, international organizations, communities, schools, research institutes, and even with other corporations. Therefore, it is necessary to improve cooperation that combines financial resources with know-how (Kim, 2014).

This strategic turn in the conception of CSV is likely to bring about a shift in corporate practices from passive compliance with societal expectations to more proactive engagement with social issues, particularly among global market-oriented corporation who are under close monitoring and scrutiny in relation to various aspects of value creation both monetary and social (Husted and Allen, 2009). The increasing affinities and convergence between CSR and strategy have augmented and amplified the attractiveness of the CSV concept and accelerated the diffusion of CSR among corporate actors (Porter and Kramer, 2011).

An increasing number of Korean companies; Samsung, LG, SK, Doosan etc., are adopting CSV as a core method for management innovation in recent years. Samsung Electronics carried out CSV project called Ovation in recent years amplified the attractiveness of the CSV concept and accelerated the diffusion of CSR. The new product offered additional durability which saved a lot of money for consumers in Africa and helped Samsung Electronics became number 1 market share company in Africa. This has strengthened the core competitiveness of businesses, formed healthy industrial ecosystems, and reinforced various members of society including affiliated companies, industry members, and disadvantaged groups. This is directing such activities towards sustainable growth. Ultimately, this will go beyond support to

establish a win-win model that incorporates conglomerates, small to mid-sized companies, consumers, and the region (Kim, 2014). Global CSV activities are being reinforced through activities that focus not only on expanding business profits, but also through activities that secure sustainable competitiveness in the market.

Relational Benefits

Recent research suggests that corporate social responsibility (CSR) has become increasingly prominent on the corporate agenda (Berger et al., 2007), with significant resources dedicated to both the implementation of CSR activities and communication intended to make stakeholders aware of these activities (Hoeffler et al., 2010). In global CSV activities, the relationship between the stakeholder and the corporation can be seen as a relationship between the beneficiary and the provider. Managing relationships is an important factor in establishing trust and collaborating for social and economic value creation. As such, relational benefits go beyond the concepts of customer loyalty and sustained relationship that is covered in general marketing. As Schlesinger & Heskett (1991) pointed out, relational benefits can be important factors for corporations as it increases profits and reduces costs when providing services. As such, in terms of global CSV activities, strengthening relational benefits is an important factor for continuous relationship and reducing costs for the project provider and the beneficiary.

As Hardwick & Ford(1986) asserted, relationship formation through relational benefits can be an important criteria for making decisions on future performance. It can have an important influence on partners regarding future values or investments in structural cohesion. It can also be an important factor for exchange relationships, where partners exchange common goods and achieve mutually valuable results (Choi, 2012). A relationship with the corporations will lead to benefits that will satisfy important needs for the consumers (Bae, et al, 2005). As such, relational benefits can be an important factor for ongoing relationship formation and access to related activities for beneficiaries in CSV activities.

Researchers categorize such relational benefits slightly differently from one another. Reynolds & Beatty (1999) categorize relational benefits as confidence, social, and preferential treatment benefits. Ulaga (2003) has categorized relational benefits as benefit, process, and operational benefits. In addition, Conze, et al. (2010) categorized relational benefits as psychological, social, preferential treatment, and promoting diversity benefits. Kim & Lee (2006) conducted their research based on economic, social, psychological, preferential treatment, and informational benefit factors. And Gwinner et al. (1998)'s approach to relational benefits are social, psychological, economic, situational benefits Gwinner et al. (1998)'s approach to relational benefits is applied to many case studies and is considered the most comprehensive approach.

This study considers four relational benefits as in Gwinner et al. (1998). The first, social benefits include feelings of intimacy, personal cognition, friendship, and social support formed by a periodic relationship among stakeholders (Barnes, 1994; Berry, 1995). In CSV project it would be a great benefit to beneficiaries and partners if, the corporation forms close relationships with partners and cause governments or other various related organizations to provide social support. Gwinner, Gremler, and Bitner (1998) also defined social benefits focus on the relationship itself.

Second, trust from the belief in the trustworthiness and sincerity of the partner is an important factor for psychological benefits. These psychological benefits can arise from feeling comfortable, safe, and confident in a long-term relationship with the provider (Bergh & Nilsson, 2010; Bondy & Starkey, 2014; Gomory & Baumol, 2004; Grant et al. 1988). Morrison et al. (1994) explains that global CSV must understand the cultural and environmental differences of each country and obtain their partner's trust in order to create a sustainable relationship. Therefore, feeling trust and security are important psychological relational benefits.

Economic benefits are economic advantages gained by partners from developing relationships with corporations (Patrizia, 2012). Global CSV must help individuals and regions continuously grow by building relationships. In the process, the corporations build a virtuous ecosystem and business cycle for all the interested parties. Situational benefits are special attention, preferential treatment, or additional consideration (Peterson, et al., 1997) given to customers. Global CSV must regard farmers from developing countries as more than a partner or customers in buyer-seller relationship and consider additional factors such as political and environmental, in order to create situational benefits for them.

In the case of global CSV activities, relationship formation and maintaining relationships can be an important success factor. The stakeholders about CSV investments is an essential component of how corporate innovations are enhanced. These benefits only occur when stakeholders are aware of the CSV activities of the corporation through CSV-related communications (Haanaes et al., 2011). Therefore, activities to create relational benefits among partners are necessary in accordance with the level of relationship formation with various stakeholders and partnerships. (Scandelius & Cohen, 2016; Prahalad, 2005).

Relationships are only profitable when they compensate for the corporation's costs and enhance benefits (Beck, 2000). In order for consumers to maintain long-term relationships with corporations, there needs to be mutual benefits for both the corporation and the consumer. When both sides achieve the proper level of benefits, not only will the relationship continue, the quality of the relationship will improve as well (Berry, 1995; Sheth & Parvatiyar, 1995).

In the theoretical background this research has the questions; (1) What is the purpose of a corporate CSV project like this CJ Group's one? (2) What is the most important factors for the success of a global CSV project in the beginning? (3) How important is the leadership in a global CSV project? Which stakeholder's leadership is more important? (4) Is the local leadership development progressed as planned one in a global CSV project? (5) What are the difficulties to lead the success of a global CSV project?

Research Methods

Research Subject

CJ Group (CJ) is a multi-industrial company group based in South Korea and its business includes food and agriculture. Since its founding in 1953, CJ has believed that a company should contribute to national economic growth and better living of the global community through business. Corporate Social Responsibility has been always CJ's very important value. CJ has been actively implementing social contribution projects

related to educational support for youth in marginalized communities and in developing countries. Entering new markets, CJ is making special efforts to recognize the countries and regions it has entered into as partners rather than markets by actively engaging in projects such as poverty eradication, quality education, and sustainable economic growth using the CJ's core competencies of food, logistics and culture-related business.

As a food company, procuring of quality agricultural products and ensuring safe processing of raw materials are core competencies of stable manufacturing which play a crucial role in securing consumer trust. In that regards, CJ is actively seeking to upstreaming the production including engaging in agricultural global CSV projects. These global CSV process focuses on improving incomes for famers in developing countries as social value creation. CJ gains from the fact that it secures stable supply of quality ingredients for its food business.

Project Strategies and Objectives

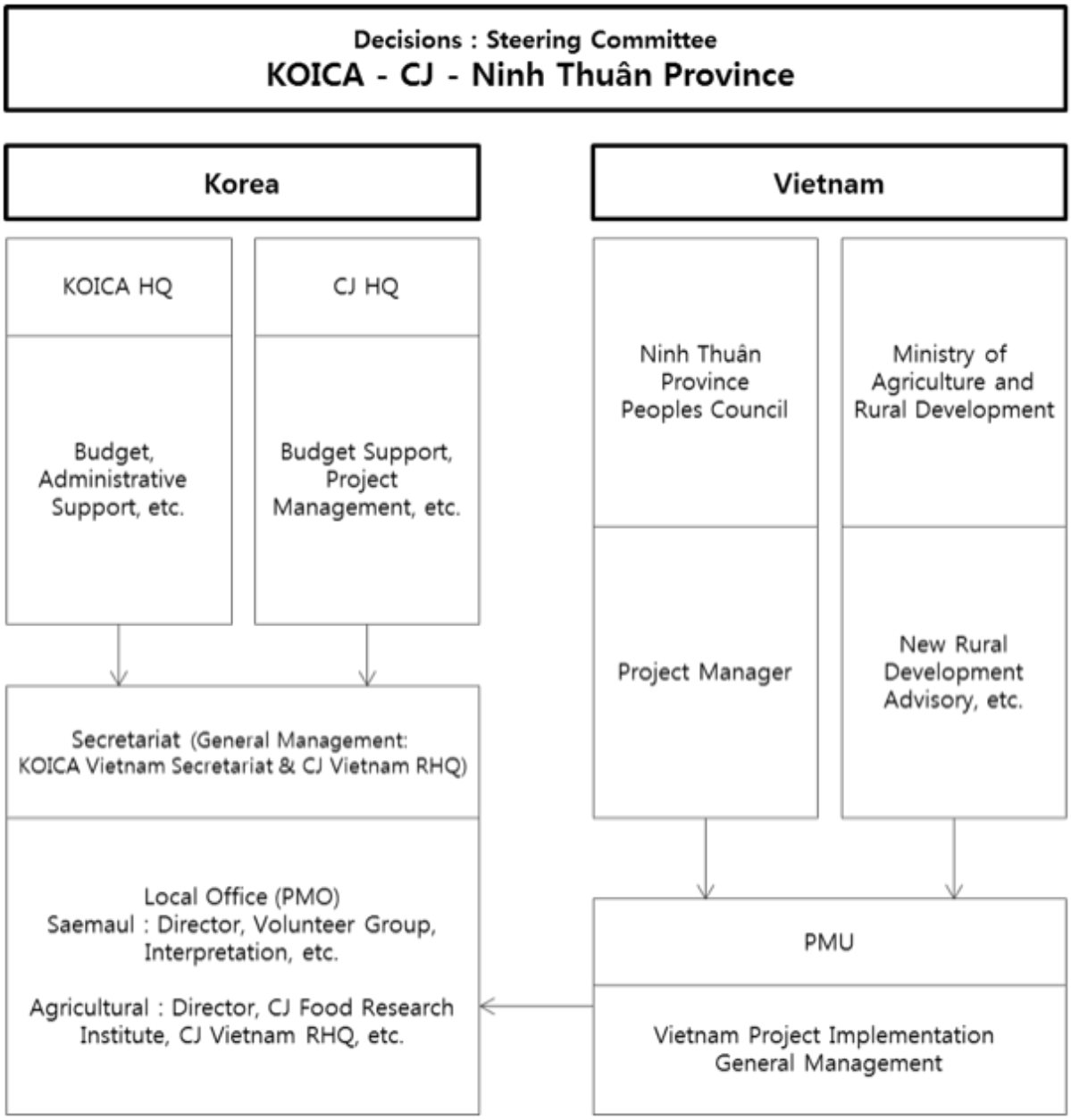
According to Bok-Sang Chang, President of CJ Vietnam, CJ has invested over $300 million in 15 business areas since establishing a regional headquarter in Ho Chi Min in 1998 (CJ internal data). In the 1980's, Vietnam has experienced an average growth rate of 7.3% per year. However, the gap between the rich and poor in the cities and rural areas has worsened. 90% of those in poverty who live with less than $2 a day are living mostly in rural areas (CJ Corporation Project report, Source: Poverty and Inequality Database. 2014. The World Bank, Development Research Group). CJ has actively supported the Vietnamese government regarding this matter, and has continued providing international aid and implementing social contribution activities. In 2013, CJ selected a village in Ninh Thuan Province, Vietnam to cultivate Korean red chili peppers for stable good quality red chili pepper supply. Since CJ's main business is Korean food, one of the key ingredients for ethnic Korean food business is chili pepper therefore CJ chose chili pepper as a major crop for the CJ-KOICA CSV project in Nin Thuan, Vietnam.

This CSV project aimed to increase the income of the local farmers and strengthen the self-sustainability. By combining with a rural development project this CSV went beyond crop cultivation to improve agricultural infrastructure and rural development. The project contained community development part that improved the standard of living for the villagers. In order to achieve this, CJ established partnerships with Korea International Cooperation Agency (KOICA) for half of the project funding and local expertise, and with the Vietnamese Government for administrative supports in permits and regulatory advice. The partnership was expanded as the project to progress to include Young-Nam University for advice and consultation on Saemaul movement, Syngenta for its expertise in seed and agriculture, and K-water, a Korean national water agency for expertise in clean water and irrigation system. In addition, there were other organization and entities were invited along the way whenever there is expertise needed in any area.

As a result, CJ directly contributed to improving poverty issue in Ninh Thuan province in Vietnam's rural areas by aligning the CSV project with the Vietnamese Government's New Rural Development (NRD) strategy. CJ was able to diversify its global sourcing base for its key ingredient, Korean red chili peppers. CJ built local chili processing plant, to secure core competitiveness for its Korean food business in the region. CJ's

goal was to create sustainable development model that focused on strengthening local farmers competitiveness and sense of ownership utilizing CJ's agricultural expertise.

Figure 1. Project Steering Committee



Source: CJ_KOICA CSV Project Report by KOICA(2014)

All the key decisions were made by the project steering committee which included KOICA, CJ, and Ninh Thuan Province. The Korean side, through on-site full-time residence project managers, oversaw the community development project and red chili project. Their goal was capacity building by developing local leadership. Vietnamese side comprised of government officers from Ninh Son District and department of agriculture from Ninh Thuan province was responsible for consultation and execution of the Vietnamese government's new rural development project (Figure 1).

The Tam Ngan 2 village in Ninh Son District is located Southeast Vietnamls Ninh Thuan Province and is mostly populated by a minority group. The Rac Ray and Kho ethnic group comprise 72.8% of population in the village (see Table 2). Most of the population lives in poverty, growing corn and cassava with an income of less than $20 a month and receives rice subsidy from the Vietnamese Government regularly (see Table 3). In 2013, CJ and KOICA started an innovative rural CSV project to improve the village economy, education and living environment.

Table 2. Basic Statics of Tam Ngan 2 Village (as of 2014)

No. of Households	245 Families
No. of Population	1,149
Race	K'ho 64.03%, Rac Lay 8.80%, Khin 16.96%, others 10.21%
Religion	Christian 49%, Catholic 31%, Buddhist 2%, others 18%
Principal Crops	Rice, Corn

Source: Internal information provided by Lam Son Commune (2014)

Table 3. Comparison of Poverty Rate of 10 Villages in Lam Son (as of 2014)

Village	No. of households and population		The poor		Rate of poor households (%) C/A
	Households(A)	Population(B)	Households(C)	Population(D)	
Lam Hoa	338	1,034	22	48	6.50
Lan Binh	400	1,672	29	78	7.25
Lam Phu	402	1,578	34	111	8.50
Lam Quy	267	1,034	29	79	10.86
Gon 1	280	1,283	106	451	37.58
Gon 2	211	893	92	391	43.60
Tam Ngan 1	205	1,125	62	334	30.24
Tam Ngan 2	245	1,149	104	535	42.44
Lap La	417	1,955	147	674	35.25
Tan Binh	259	1,010	38	120	14.67
Total	3024	12,733	663	2,831	21.92

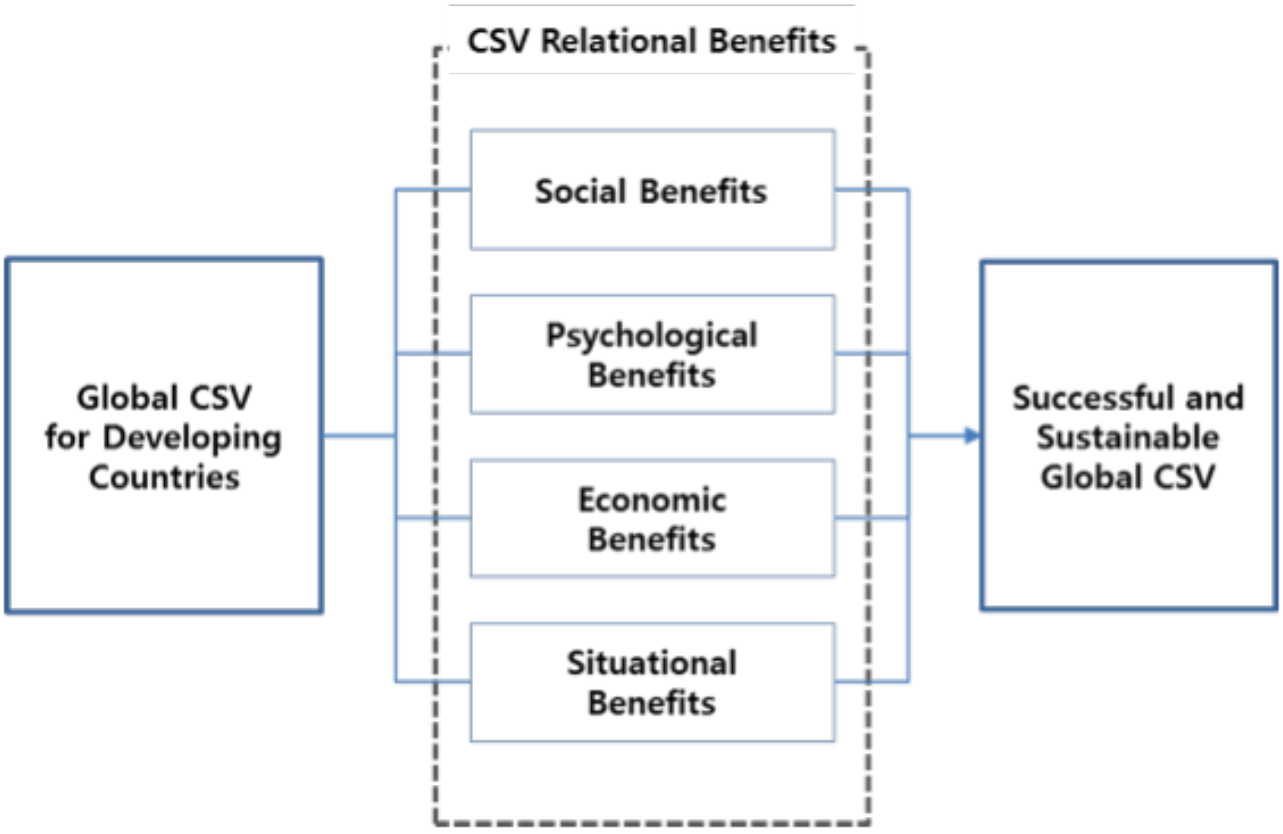
Source: Internal information provided by Lam Son Commune (2014)

Since the CJ Vietnam CSV project, the average income per household in Tam Ngan 2 Village increased from 221,000 VND to 1,200,000 VND by switching from growing corn to Korean red chili pepper (CJ Project report, 2017). Village living conditions also significantly improved by many new systems and services such as better service of electricity, advanced of irrigation system, clean water system for the household, additional cultivable land-use, farm equipment bank, to name a few (see Table 3). The CJ received credit for the successful implementation of its projects in Vietnam.

Research Framework and Analysis Method

This study analyzed CJ's representative global CSV activity, CJ_KOICA CSV project in rural Vietnam using the framework of relational benefits. This study aimed to conduct an in-depth analysis of how successful and sustainable CSV can be achieved by enhancing relational benefits from the perspective of forming and strengthening relationships between CJ and the village residents. In order to do so, the cases were analyzed based on four relational benefits factors as defined by Gwinner et al. (1998) in previous research: social benefits, psychological benefits, economic benefits, and situational benefits (Figure 2).

Figure 2. CSV Relational Benefits



This research method used by this study is a single case study as defined by Yin (2006) in which the phenomenon at the time of the study is researched in a real-life context where the boundary between phenomenon and context are unclear. The research technique presented by Woods & Catanzaro (1998), called survey research, was considered most appropriate method to analyze this type of case study and was used for CJ's project in Ninh Thuan Province. This type of research technique analyzes the background, status, environmental and social characteristics and interactions in-depth and as they naturally occur.

To obtain the necessary data for the research, this study conducted interviews and referenced the actual documents used during the project. In November 2016, more than 20 people directly involved with the project were interviewed either one-on-one interviews and video filmed by CJ managers or by e-mails. They were project managers, Ninh Thuan Province residents and farmers, government officials and other stakeholders. Researchers also used various documents provided by CJ including weekly report from Project Management Office to CJ since May 2014. This study used the following methods to obtain objective validity and reliability (see Table 4).

Table 4. Research Design Verification Method

Category	Approach Direction	Details
Construct Validity	Use of diverse data, securing information providers	Internal data, interview of those who are implementing the project, on-site manager interviews, stakeholder interviews, beneficiary interviews, newspaper articles, internal press materials. Project manager provided the materials directly, which were reviewed again afterwards.
Internal Validity	Causal relationship explanation	Cases verified the causal relationship between successful relational benefits factors for CSR and sustainability.
External Validity	Applying theories from precedent research	Applied the relational benefits theory and factors verified in previous research.
Reliability	Using case study protocol	CJ Group's rural development project is still on-going. The first project results (from 2013 to 2015) have been produced. It is assumed that repeating the same research will provide the same results.

Case Analysis

CJ benefited from this project in many ways. The most important benefit was to enhance the sourcing competence of agricultural product. As a good company it is important core competence to have secure competitive sourcing of key ingredient. Korean red chili pepper is one of the most important base ingredient for Korean Food. Securing stable sourcing in Vietnam would help the company to grow its Korean Food business in the region.

The following section analyzes relational benefits from the villagers(customers)' point of view. There were significant benefit in every area (see Table 5).

Table 5. Performance Data of CJ-KOICA CSV Project in Vietnam

	Before The project	After The project	Note
Chili Pepper Farms	-	33 farms	2 first-year farms, 21 second-year farms, 33 third-year farms
Chili Pepper Cultivation area	-	12.5Ha	0.6Ha for first-year, 4.1Ha for second-year, 12.5Ha for third-year
Annual Income of Chili Pepper Farms	12 million Vietnam Dong	34.1 million Vietnam Dong	
Cultivable area	147Ha	202Ha	Effect of expansion of irrigation ditch (except electrical leading-in effect)
Water Supply Households	44 households	225 households	
Usage rate of Water Supply	19.6%	100%	Currently the supply rate is under 100% due to the increase in new households
New Job (regular/daily)	-	68	Total of 2,317 as cumulative number of people (No. of population * No. of days participated)

Source: Project Closure Report of the "Project for Developing Agricultural Value Chain in Ninh Thuan, Vietnam (2017.9) provided by CJ Corporation

Social Benefits

Social benefits are characterized by customers'(villagers') familiarity and friendship and focus on relationship itself (Henning-Thurau et al. 2002). CJ's project in Ninh Thuan province began with various activities to improve social infrastructure such as community development and building the self-sufficiency of villagers before its red chili pepper procurement project in order to build relationship.

Because water was an important factor for both village life and the crop cultivation, improvement of water system was the first priority. CJ installed water pipes at educational facilities, public health centers, and village hall. These actions resolved the issues regarding safe water distribution in community facilities. In elementary school, CJ installed water fountains, new toilets. The installment of toilets improved sanitation at the elementary school and improved attendance rates especially for girls. In preschools, CJ installed kitchens and provided kitchenware. CJ carried out a variety of activities related to connecting water pipes in the village. In 2015, by renovating and extending 300 Meter to the existing irrigation system, CJ built customized water system to provide water to non-arable land and made them arable. (See Table 3) As a result of the water pipe connection project, all 181 households in the village were newly supplied with clean water and resulting in increased

quality of life, prevention of water-related diseases and a reduction in drinking water related expenses. Truong Xuan Vy, Deputy Director of the Provincial Department of Planning and Investment in Ninh Thuan Province, explains:

> "*Because we had been receiving aid from many countries and global corporations in the past, we were not particularly excited this time around either. The Ninh Thuan Province government also did not consider CJ as a special partner. However, as the project progressed, I could see the huge changes in the village and became sympathetic about the authenticity of CJ and its great social and local benefits. I came to enthusiastically cooperate with them policy-wise.*"

CJ tried to create cooperative working environment in the village and to build sense of community. The village hall's front yard was paved with cement to create a space for drying harvested crops together. Tented roofs were set up to make rice processing facility. An area in the village was set up to produce organic compost. In addition to the creation of cooperative working environment and common working area, CJ also began training in agricultural technique to increase productivity in areas such as harvesting techniques for rice and corn; production techniques for organic compost; seedling and raising techniques for chili pepper; operating small-scale farming machines; and cultivating, harvesting, and drying red chili peppers.

CJ renovated the village kindergarten and elementary school. CJ paved the playground and installed electricity and power in elementary school. The restoration of the playground contributed to the improvement of the educational environment, children's emotional development, and the improvement of hygiene. The cooking facilities made it possible for the school to provide lunch to the children. Renovated village hall was used as community center and used not only for village meetings and but also used for cultural and educational activities to improve the quality of life. There were weekly movie screening, Korean language classes, Vietnamese language classes for illiterate villagers, farming technique training, and monthly night market to raise community fund.

As seen in this case, CJ learned and proved that it may be helpful and even necessary to improve infrastructure and environment before proceeding on to business side of CSV projects when carrying out the CSV projects in developing countries. Cooperation with the government and other stakeholders for concrete and active support for social benefits, long-term prospect in problem solving, and special consideration for longer-term investment may be necessary for CSV projects in developing countries (Scandelius & Cohen, 2016).

Psychological Benefits

Global CSV activities can sometimes face adverse feelings and cultural differences among stakeholders. Therefore, relationships among stakeholders and participants must be built on trust, authenticity, and sincerity and feelings of psychological security. Most of the villagers of Tam Ngan were from Rac Lay and Kho ethnic minority groups (Table A1 in Appendix). They shared the same history, culture, and interest among themselves but use different languages from Vietnamese.

There were several village organizations, led by the head of the village, including farmers' association, women's association, youth group association and retired soldiers' association. However, these were not voluntary groups. They were state-organized associations and dependent on government budget. They lacked independence and are inefficiently

managed. Most villagers suffered low morale and low motivation due to dire economic situations. The poor village facilities and ineffective organization of village management were impeding the village's development. Jae-woon Kim, director of CJ's CSR Division, explained as follows.

> "*Every night at 7 or 8 p.m., we held classes to teach the Saemaul spirit to the farmers at the village hall. The increased direct interaction between villages and Saemaul expert we sent allowed to build mutual trust between CJ and villagers. This was especially effective in developing the villagers' competencies for self-reliance. Our project managers lived with villagers in the village, becoming part of the village community, bonding by identifying as one of the villagers, to earn their trust. I believe this led the project to success.*"

There needed to be a new culture of driving the change toward common goals with sense of community among the villagers. Villagers needed to be acting and thinking proactively and leading their own destiny. CJ created a synergetic effect by introducing the Saemaul Movement. By instilling the Saemaul Spirit of diligence, self-reliance, and cooperation, CJ was able to improve agricultural productivity of the village and raise incomes of the villagers.

CJ actively involved all levels of village organizations including the highest level village organization, Rum Sun Myun People's Committee, into the project. CJ provided support for villagers to form an autonomous village co-op. The village organizations had desires for progress but did not have the operational competency. Village residents did not feel enough incentive to participate in government-led new rural development. In order to change these, CJ tried to transform the working organization to be more independent and proactive. CJ organized regular meetings both with villagers and with the government to discuss how to resolve business issues and the strengthening of the organization's operational capacity.

In the beginning, CJ worked to obtain Lum Son Myun People's Committee's active cooperation by working closely with the government because of village residents' distrust of foreigners. Also there was a risk of corruption of the committee if too much authority over the project was given to the committee too soon. The villagers had a desire to secure a stable distribution channel for their crops and learning agricultural technology but they lacked experience and know-how in cultivation contract methods, especially with foreigners. They also did not trust foreigners or foreign companies due to their cohesiveness as a minority group. CJ tried to build trust of the villagers by continuously communicating and purchasing the crop through rational and fair price based on the cost of production.

Support for schools and children also helped to build a closer relationship with villagers. For example, CJ Group's employees donated elementary school uniforms and shoes, which had more positive impact than the CJ employees expected. Jae-woon Kim, director of CJ's CSR Division, explained as follows.

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Economic Benefits

Ninh Thuan Province is one of the most impoverished areas even in Vietnam. Therefore increasing the villagers' economic gains and strengthening agricultural productivity was of utmost importance CJ's project goal for Tam Ngan 2 Village was to increase the village's economic autonomy by eradicating extreme poverty. CJ achieved its goal by contracting to purchase the all the red chili pepper crops village farmers produced while helping to increase productivity in a variety of ways. CJ carried out activities to strengthen production competencies of the village farmers by analyzing the farmers' technical prowess and understanding; selecting and providing suitable red pepper varieties; arranging educational tour to the advanced farming area in Vietnam and in Korea; and continuous education and training of advanced farming technology.

In addition, on the land provided by the Vietnamese government, CJ established a pilot test farm and conducted diversification and quality improvement of cultivable varieties of red chili pepper and other crops(See Table 3). CJ built and operated red chili pepper processing plant. The plant processed both dry-processed red chili pepper and export-ready red chili pepper. Through these activities, CJ has laid the foundation to lead the economic development of the village through activities such as: transferring agricultural technology, purchasing the entire harvest, improving productivity, and crop diversification. CJ employee Chang-hun Jeon, who worked on the school uniform project explained as follows.

> "*Thanks to our employees' voluntary donation drive, we were able to donate elementary school uniforms to Tam Ngan Village. The children were often absent from school because they had to work on the farms or feed the cows. But when the parents see the uniforms, parents feel that the children should be in school instead of the field to work. When I heard that their school attendance rate improved significantly after receiving the uniforms, I felt very rewarded.*"

There had been a government fund to provide credit for the poor in the village, but the loan amount was very small, approximately 5 to 6 million VND (about $250 to $300) in the repayment period of 3-5 years. The fund was not sufficient as farming capital and most village farmers used up to the limit. Many of the villagers also received the loan from private financing source but the interest was too high. The farmers could not obtain enough funds to purchase seeds or livestock like water buffalo.

In order to strengthen the village's financial self-sufficiency, CJ established an agricultural machinery bank. The machinery bank was not only to rent out and share important agricultural tools such as thrashers, and weeders, thereby reducing the labor dependency and increasing productivity but also the profit from the agricultural machinery bank was to be used as seed money for financial autonomy of the farmers' association.

In 2016, CJ built a micro-credit system to improve the village living environments such as building toilet in their house. CJ also started village development community funds which would be used for the projects benefitting all the villagers, chosen by the villagers themselves. All these created a foundation for economic and living improvement for the villagers.

In the first year of red chili pepper farming, 19 farmers participated in the project and cultivated Korean style red chili peppers on 3.9ha areas. Their income rose to 230 million VND and net income to 12 million VND per farm, which was about 4.6 times the average

income of 2.6 million VND earned when raising corn before. Because the co-op's interest rates were lower than that of other financial institutions, each household was able to save in interest expenses by 40 VND per farm(see Table 3).

CJ not only purchased red chili peppers for CJ's food business but also initiated the commercialization and distribution of chili powder by helping the villager to sell it all across Vietnam. The profit was used for the development of the area and to increase villagers' incomes. Hoang Ha Jo Ngo of Tam Ngan Village stated as follows.

> "*We learned how to grow red chili peppers from an agricultural expert from Korea. Because we were used to growing corn, raising red chili peppers was incomparably difficult. Unlike growing corn, we had to go out to the fields every day to pull out the weeds, water them, and fertilize them. However, our income was more stable than when we grew corn because CJ would purchase the red chili peppers from co-op after we sold the red chili pepper to the co-op. Now we have hope that we can use the money we earn to send our children to high school of even to college.*"

The villagers could obtain economic security through CJ's Korean style red chilli pepper cultivation contract. However, CJ's goal was not only to purchase the red chili pepper at a pre-determined price but also to align its business strategy and the villager's competency and grow together. For example, through management of agricultural R&D, CJ helps develop the village co-op's capabilities and also achieves diversification of raw materials procurement source. CJ planned villagers to have a competency to grow substituting crops even after the project and taught the cultivation skills.

These economic benefits created a win-win situation where a corporation profits from a CSV project while a region obtains economic self-sufficiency. CJ's Vietnam CSV project illustrates that only strategic and sustainable CSV project which from the beginning takes the villagers' economic self-sufficiency into consideration even after the end of the project will bring out active participation by the villagers and thus successful results. This reveals that in the case of global CSV, the execution of a project that takes into consideration of creating the region's long-term sustainable social value rather than the company's short-term economic value will produce truly effective results. Seok-joong Choi, director of the CJ Vietnam, said the following.

> "*Our CSV project places the self-sufficiency of Ninh Thuan province before the smooth supply and demand of red chili pepper powder for our business. It was important that we also educated the non-participating farmers about skills to grow other crops than Korean red chili peppers. We wanted to prevent conflict arising within the village due to the increased income from growing red chili pepper crops between red chili growing farmers and those not participating in the chili project. We wanted revitalization of the market mechanism because we wanted to help the villagers attain autonomous economic competencies so that they could understand how to increase income through market distribution and the commercialization of agricultural products.*"

Situational Benefits

Situational benefit develops community in various ways. To improve the villagers' quality of life, CJ constantly engaged other voluntary groups from Korea who were not part of the original project scope. The one favored most by the villagers was the medical service. CJ provided opportunities for villagers who had never had access to modern medical services to receive

treatment by connecting then with voluntary services provided by medical institutions in Korea. Through Suwon Woncheon Church, a group of 30 volunteers, including five doctors, and CJ's employee volunteer group treated more than 1,000 villagers in August 2015. For most of the villagers, it was the first time they had received any modern medical treatment. The villagers received checkups for various illnesses and advice for general health, as well as medication and treatment.

The university volunteer groups from Yeungnam University and Sejong University in Korea came each year to help the villagers. They participated in recreational activities with the children, painted the exterior walls of the school and other community buildings, and helped the farmers harvest the red chili peppers during harvesting season. This direct assistance helped to increase intimacy with the villagers.

The construction of the chili pepper processing plant was an example of how situational benefit was connected to the economic benefit. At first there was no electricity at the construction site where red chili pepper powder processing plant was proposed. So CJ asked Ninh Thuan Province to invest approximately $200,000 to provide electricity to the construction site. Not only the chili pepper factory but also the whole area benefited by electricity because it became possible to use irrigation pumps, which in turn contributed to the expansion of arable land even to the neighboring farmlands (see Table 3).

Chili pepper processing plant became also good example of CSV. According to the development strategy of Ninh Thuan Province, CJ has secured funding for cultivation of variety of red pepper species to strengthen the capability to create a brand for the red pepper produced in the region. Farmers not only just grow chili but they own the brand. In the process this world. This would also enhanced CJ's agricultural competencies.

This project enhanced the villagers' pride and dignity, especially as ethnic minority group. In the beginning of the project, farmers from Tam Ngan village, as a part of the CJ project, used to go on a field trip to other villages with advanced agriculture techniques to learn from them. However, just a couple of years later, beginning of 2015, farmers and government officials from other villages in Vietnam visited Tam Ngan village, Ninh Thuan Province to learn from them. In 2016, Da Droach Ha Khiet, the village Co-op leader was invited to present their case as a success case in front of Saemaul leaders from more than 90 countries in Korea.

Using the community fund system, the village is actively engaged in profit-making projects. The women's association, youth association, senior citizen association and farmer's association all began projects for additional income: the women's association bought piglets and made a pig farm; the youth association raised goats; the senior citizen association made compost. CJ provided seed money for the community fund and played a big role in the progress of the village.

Through these activities, CJ changed the mindset of the villagers. CJ project's success reveals that situational benefit which develops community and generates wealth for the community comes from continuous mentoring.

Discussions and Findings

This study aimed to list success factors and to provide a strategic perspective for global CSV by analyzing CJ's global CSV project in Ninh Thuan Province in Vietnam. The following findings were attained through the case analysis.

First, rural development CSV projects or CSV projects which incorporate developing countries require not only active support from the company but also cooperation with other stakeholders including governments and social sector stakeholders. This is because such environments lack the basic infrastructure and various industrial competencies required for the success of the project. CJ's Vietnam CSV project succeeded because it was able to develop basic infrastructure such as electricity and water, with the active participation and support from Vietnamese government and other institutions and agencies. In regard to global CSV approaches, a wider range of stakeholder networks and a strategic plan for creating environments based on long-term support must be considered from the beginning.

Second, in the case of global CSV, many projects are faced with cultural differences between the company and the region, as well as unfriendly attitudes from foreign community from the beginning of the project. Therefore, it is necessary to reduce psychological differences by strengthening trust through increased cultural contact among stakeholders from the start of the project. CJ was able to gain the trust of Tam Ngan village residents by instilling a sense of autonomy and positivity through education, Saemaul activities and helping the farmers increase productivity.

Third, global CSV reveals the necessity for good leadership development and importance of education and training. CJ conducted a series of education and training processes that educated farmers from seed provision to how to overcome any difficulties related to the chili farming process. Ultimately, in order to produce the desired economic and production results, the company must bring the social change to the region and community and change the farmers and farming methods.

Fourth, Corporation should have long-term business strategy which takes into consideration of both corporate business profit and societal value for the beneficiary region in global CSV projects. CJ helped the Ninh Thuan Province develop competitiveness in order for them to independently sell Ninh Thuan Province red chili peppers to many buyers other than CJ in the future.

Many companies recently can secure the sustainable competitiveness as global corporations through market reforms that secure new markets or cooperative areas by meeting the needs of the underprivileged market or increasing the income of the low-income class. In response, by developing global CSR for developing countries around the world, including those in Southeast Asia such as Vietnam and Myanmar, Korean companies have also gone beyond the past social contributions centered on simple support and donation and are now carrying out activities that induce social development such as supply network establishment through market creation and coexistence. In particular, as enterprises redefine value chain productivity, global CSR activities are influenced by various social issues and influences, such as natural resources, water use, health and safety, working conditions and elimination of discrimination in the workplace.

This kind of social problem increases the economic cost of the enterprise value chain. Therefore, by finding a way to solve this issue and engaging in the creation of social values, companies can cooperate and network with various stakeholders such as NGOs, cooperatives, education organizations, and governments to go beyond laborers, partners, and communities and create social values. This type of relation formation ultimately emphasizes the importance of strengthening relational benefits and managing cooperative relationships among stakeholders. In particular, global CSR is required to solve social problems through the formation of relationships based on trust and authenticity.

The reason why global CSV is different from general outsourcing strategies for overseas expansion is because the focus is on the symbiotic relationship between the region and the company, as well as creating and expanding into new markets through long-term regional development, rather than more short-term business profits. From this perspective, successful implementation based on sufficient consideration and collaborative innovation in economic, social, psychological, and situational benefits would be pre-requisite for successful global CSV (Porter & Kramer, 2006; Eccles & Serafeim, 2013).

This study provides the following practical perspectives for persons-in-charge promoting corporate global CSV activities. First, CSV is not corporate social responsibility (CSR) or social contribution, but rather a business strategy that takes a corporation's economic benefits into consideration such as raw material production or procurement of resources. As such, it may be difficult to tell CSV activities apart from global outsourcing strategies. However, Corporations and persons-in-charge should understand CSV goes beyond the concept of production or outsourcing because it focuses on long-term business goals such as securing future markets and consumers through regional development. Sometimes, global CSV requires solving unforeseen problems including differences in national policies, legal systems, and culture.

As such, strengthening corporations' international network and cross-cultural competency is required in order to effectively cooperate with international institutions and governments. Understanding characteristics and phenomena inherent to the culture and customs of the region and using this as a basis for building trust and authenticity with residents must be taken into consideration. CSV is not only based on business partnerships, but also places emphasis on long-term relationships through cooperation and win-win gain. Therefore, CSV activities should be based on long-term support for future market creation.

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Efficiency of mobile learning in processes of formal and informal education

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Abstract

The advancement and development of mobile devices in recent years has led to increased interest in the use of mobile devices in education. Continuous proliferation of personal smartphones with advanced web browsers has created an incredible opportunity that can not be ignored. It is now possible to deliver the content of the course on many platforms using a mobile browser (browser). This alternative method, according to some studies, has the potential to be more efficient and gain greater acceptance by the users than so far was the case when the courses were presented via computers in e-learning. This alternative method of delivery has the ability to optimize time management, enable easier availability of compulsory education and improve the development of missing skills.
Mobile learning is now in a growing trend in various sectors of education around the world.

However, one of the main challenges is that mobile learning solutions have not yet been deeply rooted in educational prerequisites and practices, as surveys and research on this topic have so far been short-lived.

This paper will focus on secondary and higher education in Bosnia and Herzegovina and the acceptance of mobile technologies by students in their schools and also on some trends in informal learning development regarding mobile learning.

Keywords: mobile learning, m-learning, informal learning, formal learning,

Learning explained

In his nature, the human being is "programmed" to gather new information and acquire new knowledge and to learn. Learning can be defined as a complex psychological process that leads to changes in the behavior of an individual by adopting certain knowledge.

Learning is a complex psychic process of behavior change based on the acquired knowledge and experience. It includes the acquisition of habits, information, knowledge, skills and abilities. This is the process of storing data in the memory store. Learning and retaining knowledge are two mutually complementary aspects of the learning process. These two processes are mutually complementary factors, and both are crucial for data storage.

The learning process lasts for the rest of your life, but in particular, we need to highlight certain age periods when the optimal moment for learning certain skills rises. According to previous scientific research, the best years for adopting certain skills and abilities are:

- Period around 7 and 8 (seventh and eighth) years old - for learning foreign languages,
- The age of 18 (eighteen) years of age - the period when the human brain is at its peak and best processes all the cognitive data,
- Period around 22 (twenty-two) years of age - increased ability to remember new data,
- The period between the 25 and the 29 (twenty-five and twenty-nine) years of age - stands out for exceptional physical ability,
- The age of 31 (thirty-first) years - the period when the combination of physical and intellectual skills becomes particularly pronounced and "improved".

Knowledge and learning is based on progress, therefore finding the best method of education and knowledge acquirement is a key segment of your progress.

Types of Learning

The learning process is divided into three types:

I. According to intent:
a) deliberately (intentional)
b) unintentional - changes in behavior that are being realized, and we do not intend to achieve them, we are not aware and we can subsequently gain insight into it.

For example: sub-perceptive learning - if some stimuli often affect our body, enter our nervous system briefly, have low intensity, this entry is accumulated, upgraded and begins to act consciously on our behavior. Thus, during the screening of the film, a picture of Coca Cola was inserted into the film in every second. Most of the viewers showed the need for Coca Cola after the screening of the movie.

For example: hypnopedia or learning in sleep or in a state of rest when sensory channels receive information in the brain. In this way it is easier to learn monotone content, such as grammar, meaning of the word, through the headphones. It is possible to learn a foreign language using this method, but it is important to make up for a dream later because we are tired.

For example: latent learning - covert learning until a condition for manifested is created (for example, the door that closes and we always close it harder, until we rectify it, we are not aware of the way we opened them before; we can not count the songs on the CD as they go one after the other, but we know the beginning of the next song when we hear the end of the previous one).

II. According to the type of material:
a) psychomotor (motor)
b) miso-verbal (verbally)

III. According to the way of learning:
a) Simple:
- learning by condition,
- mechanical (associative).

b) Complex:
- instrumental condition,
- insight into the situation,
- social,
- by model,
- creative,
- combinatorial.

Education and the progression of leaning of learning with ICT

Education has always been a strong, if not, and a leading factor of economic progress development, business competitiveness, increased productivity and job improvement, and the reduction of regional differences in economic development. It is precisely for these reasons that the importance of continuing education is growing. In general, the concept of education is related to school institutions, which is essentially a rather inaccurate generalization, because education is not done only in school institutions (although this is mostly true), but also in the home, society and in every environment in which a person can acquire new knowledge and experience.

"The word "education" is derived from the Latin ēducātiō ("A breeding, a bringing up, a rearing") from ēdūcō ("I educate, I train") which is related to the homonym ēdūcō ("I lead forth, I take out; I raise up, I erect") from ē- ("from, out of") and dūcō ("I lead, I conduct")."
According to the ways of acquiring knowledge, there are three types of education in today's modern society:
1. Formal,
2. Informal,
3. Non-formal.

Formal education

Formal education belongs to those forms of education that appear mainly in school institutions and it is prescribed by legal acts. Knowledge and skills are acquired according to a plan and program that is predetermined and which, to a lesser extent, pays attention to the person's individuality. Knowledge is adopted gradually, according to age, and is therefore divided according to the levels of education (primary, secondary, higher education, and university). Although the school is the most typical example of formal education, formal education also includes all the similar institutions for which the same principles may apply (for example, passing a driver's exam). Formal education given by specially qualified teachers they are supposed to be efficient in the art of instruction. It also observes strict discipline. Formal education is slowly changing and it is not following the needs of society. This is also its main shortcoming.

Figure 1. Formal learning

Informal education

As the society develops the need for better education and self-improvement is increasing. This "phenomenon" is conditioned by the rapid development of science and technology. Given the nature of formal education and the "rules of organization" of the course of learning, it could not always keep up with the development of new knowledge and the occurrence of informal education is precisely based on these shortcomings. Therefore, informal education serves to complement formal and give us the opportunity to access all those contents that are somewhat inaccessible or even completely inaccessible (various courses of specific skills, practical business knowledge, personal improvement, such as dance, writing, etc.). In some cases, due to the lack of a sufficiently efficient model of flexible formal education, informal education is responsible for reducing the gap between existing and required education, scientific disciplines and the desires of young people.

Informal education is carried out through activities such as courses, seminars, lectures, conferences, workshops, various types of training, as well as volunteering.

Although informal education is not legally prescribed and there are no directly defined rules on what it should look like, there must be a framework in which it will be implemented, as well as pre-defined objectives and tasks that will be followed and tailored to the target group. Precisely because of the differentiation of educational content, it must be flexible to suit all participants. What is typical for informal education is that there is a voluntary participation of participants in these courses, seminars and the like, often independent of years of experience and previous education. The lecturer must be trained and competent person and his role is not only to teach to participants, but also to exchange experiences and skills, and learn through practical work, so that those who learn become active factors of the learning process.

Informal education offers a variety of education programs that can be classified into two broad categories and these programs are targeted at a wide variety of target groups:

- Educational programs (for acquiring different knowledge and skills),

- Programs dealing with upbringing (learning attitudes and positive living values).

The target group in informal education does not exist and the years do not represent an important factor (of course, the person must have realistic possibilities related to the program itself). For some people it can be even the only possible education available, because for various reasons - the doors of formal, institutional education could be closed for them. It can also be of great aid to people who have had acquired formal education, but they do not deem it as quite as enough, and in this case we define it as "learning and training adults for work, life, social activities that are not subject to direct standardization and strict verification procedures".

On the other hand, formal education acquired by a person can be of great practical benefit in some cases, but often formal education ends after studies (undergraduate and postgraduate). If a person follows the concept of continuous learning through life, then apart from gaining practical and life experience, and opportunities for informal education can be of great importance even when a person enters the 30s, 40s, 50s and later years. It's never too late for learning.

Informal education supports lifelong learning, and lecturers have a great responsibility to bring the topic closer and to stake participants, thus ensuring the quality level of knowledge that will be acquired after these training.

Non-formal education has a multi-important role in employment for different categories.

Figure 2. Informal education factors

Non-formal education

In most of the literature regarding the learning process, the term non-formal education is often mentioned, which should be distinguished from informal. Non-formal education is what we call "the school of life" in everyday speech. It is unplanned, spontaneous, is created through interaction with friends, parents, the media, without a special plan and structure. However, non-formal education has its own downside. It happens that young

people from their surroundings adopt attitudes and negative values. The undeniable fact is that in every process of learning, in a small measure, formal and informal and non-formal education is present, and these three forms of education complement each other and jointly strengthen the elements of the lifelong learning process.

Figure 3. Non-formal education factors

Learning with ICT

Education has a key role in every person's life, and that period is not that simple. With the development of technology, primarily the Internet, it switches to online learning that improves and facilitates the overcoming of materials that is not always easy. With the effective use of information and communication technologies (ICT) in education, each person easily achieves their goal. As a result, there is satisfaction, acceptance by society, and what is very important in life, employment opportunities.

The term ICT stands for all technical means used for the purpose of handling information. ICT consists of information technology, telephony, electronic media, all types of processing and transmission of audio and video signals and all monitoring and control functions based on network topologies.

ICT has found its use in everyday life as well as in various business aspects. The generations to come - will move the limits on the use of technology even further. It is therefore important that we begin already pedagogically, methodically and professionally to formulate the materials through which young people will be educated for the future based on information and communication technologies.

At the beginning of the 21st century, humanity entered a new, third phase of globalization. The world is becoming increasingly smaller in which e-connectivity or e-inclusion become very important factors. The positive consequence of this is the strengthening of the importance of individuals. Combining PCs and broadband communications, together with the corresponding software, brings a number of new forms of collaboration, such as up-

loading, out-sourcing, off -shoring, supply-chaining, in-sourcing, and in-forming. The organization of the world move from horizontal - command and control, to horizontal connection and collaboration. All this has a great impact on education. Revolutionary changes in education bring not only new technologies but also new forms, such as e-learning and lifelong learning.

E-Learning

The term eLearning can be defined in several ways; The first association is electronic learning, which is also the basic definition of eLearning - learning with electronic devices like the computer.

Elearning can also be described as learning everywhere because of its availability in almost every place.

Often, this type of learning is used in large corporations where specifically they come to the expression of its advantages regarding the possibility of educating the great number of people in a very short time. That is why it’s known also as Enterprise learning or Business learning.

Electronic learning can be defined as a process of transferring knowledge and skills electronically using appropriate computer applications, i.e. dedicated programs, and environments in the learning process. These applications and processes include learning through a web, a computer, in digital classrooms, and the content is transmitted via the Internet, intranet / extranet, audio and video tape, satellite TV, etc.

The basic definition of e-learning says this is "... the use of multimedia and the Internet in order to improve the quality of learning - by allowing access to remote resources and services and facilitating cooperation and communication at a distance."

"In contrast to what we often hear, e-learning is not just a tool, it's actually not a tool at all. E-learning is the kind of communication channel, the learning channel, like face-to-face communication, like the press or phone. Like TV and audio-video systems.”

In the European Community, according to the E-Learning Action Plan, E-Learning is defined as "the use of new multimedia technology and the Internet to prove the quality of learning by facilitating access to helpful resources and advice, as well as distance learning and collaboration."

Today's forms of e-learning involve different aspects of using ICT in education and depending on the intensity and method of using ICT.

We distinguish several aspects of e-learning:
- classical classes - classroom classes (F2F or face-to-face);
- ICT education - technology and classroom teaching (ICT supported teaching and learning);
- hybrid or mixed learning - a combination of teaching and learning with technology (hybrid, mixed mode or blended learning);
- online lessons - teaching is fully organized online with the help of ICT.

CBT

Computer Based Training - an application or set of applications that provide educational content via a computer. This process includes lessons, exercises, simulations, and testing. CBT now includes non-Internet-based learning programs, e.g. CD classrooms.

In classrooms equipped with a single computer and projector, lectures can perform during which a process is visualized and facilitates understanding (for example, a simulation of a chemical process performed at a very low temperature).

In computer classrooms in the school building (faculty) you can offer quality education from subjects that require students to intensively use computers (statistics, design, design). Testing can be performed using interactive tests with automatic evaluation and assessment.

Mobile learning and usage of mobile devices in high schools of Bosnia and Herzegovina

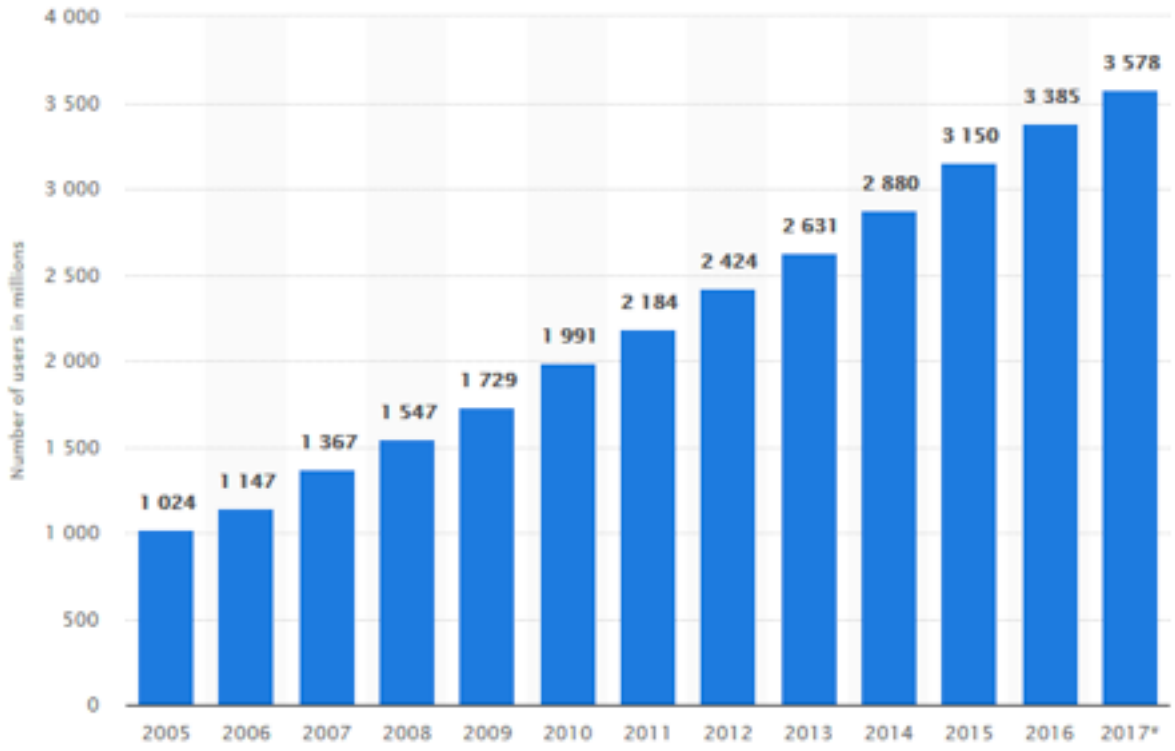
The emergence of mobile learning took place quite quickly. It did not appear as the first mobile devices, and it was a little late in the development of other technologies, but in the end, it was managed to be implemented as an area without which it is not possible today. Such learning is more accessible and easier for all who need to learn, because it gives the opportunity to learn at any moment and in every place. In the beginning, mobile learning was just learning with a laptop, and later with the help of various wireless devices (cell phones, tablets and similar devices). With the advent of newer and better devices, mobile learning opportunities have increased, and so are the very interests of the users. There has been a revolution that allows for more advanced learning, so the feasibility of this learning is not questionable, but it is slowly making research to fit it into an educational program.

Today's mobile phones have the ability to store and process data more than the most powerful computer from the half of the last century. In the last few years, we witness the rapid development of telecommunication devices with significant capabilities that unite so many different functions.

The amount of memory available to mobile devices gives them the ability to use for different purposes. Also, interconnection and access to the Internet enable fast data transfer and usage from all networked locations.

M-learning (mobile learning) is one of the methods of using E-learning.

Chart 1: Number of internet users worldwide from 2005 to 2017 (in millions)



Source: https://www.statista.com/statistics/273018/number-of-internet-users-worldwide/

Some of the definitions of M-learning are:

1. Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies.
2. Learning that happens across locations, or that takes advantage of learning opportunities offered by portable technologies.

Laouris and Eteokleuous proposed the definition of mobile learning after a comprehensive review and comparison between e-learning and m-learning. They conclude that the definition of mobile learning must take into account many parameters, as well as the ways in which they interact and affect one another.

Their formulation for defining m-learning functions is: MLearn = f {t, s, LE, c, IT, MM, m} (where t is time, s is space, LE is environment, c is content, IT is technology, MM is mental ability, and m stands for method).

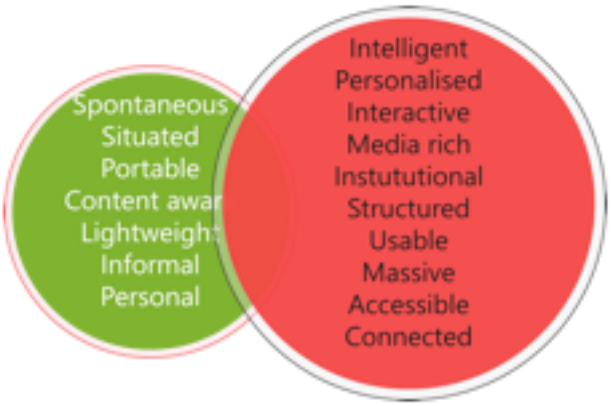
Geddes saw mobile learning as the acquisition of any knowledge and skills through the use of handheld technology, anywhere and at any time. This is probably the most accepted definition of m-learning.

Mobile learning (or short m-learning) is not just a combination of mobile devices and learning. It is always more or less related to mobile e-learning (or short e-learning). Mobile learning also has a close relationship with distance learning (or short d-learning).

Figure 4. Mobile learning shell

Although mobile learning has a close connection with e-learning and d-learning, mobile learning differs from e-learning and d-learning. Traxler defines basic characteristics that define mobile learning.

Figure 5. Traxler's characteristics of mobile learning (m-learning vs e-learning)



In his literature, J. Traxler lists six categories of m-learning:

1. mobile technology-based learning,
2. miniature, or portable e-learning,
3. connected learning in the classroom,
4. informal, personalized, locate mobile learning,
5. remote mobile training.

Koole described mobile learning as a process resulting from the convergence of mobile technologies, human learning abilities and social interaction (figure below). This model describes a learning method in which students can move within different physical and virtual locations, so they participate and communicate with other people, information or systems - anywhere and at any time. Three aspects are in focus: device, student and social aspect, and in the very site there is mobile learning.

Figure 6. Formulating the mobile learning framework

According to research conducted by Jason Haag, respondents in the study believe that a course through a mobile device provides many advantages. Thirty-four percent of respondents said convenience was the most useful feature. "Time management (22%) and touch screen interactivity" (20%) were almost the same as the second and third highest ranking responses. In the fourth and fifth ranked place in the answer, they were "closely linked and more concise data" (11%) and "training without interference" (10%), while 3% answered "other". For those participants who responded to "other" comments, they were as follows:

- The user felt more confused when using a mobile phone,
- Transferability of training.

Mobile learning can also be support for lifelong learning, for example, learning foreign languages can influence the improvement of literacy among younger generations. Also, mobile learning that records high growth are learning through testing - testing, learning by playing games, and mobile learning through social connectivity. Some of the technical challenges ahead of mobile learning are the connectivity and durability of the battery, the size of the screen, and the possibility of using it in different operating systems. Some of the socio-educational challenges associated with the future of mobile learning relate to the development of the theory of learning in the mobile age, and the development of learning support in various contexts.

Mobile learning in informal education

In today's turbulent business world, companies need to provide some skilled and proficient employees to attract clients, but also provide lifelong learning in order to retain those people. The desire of employees for further learning and the ability of the company to satisfy this desire are proportional, therefore, it is not surprising that the lack of opportunities for further development of such skills is one of the main reasons for leaving the company.

In order for human resources departments, who are most often in charge of this segment of business, to do their job well, they must follow continuous and dynamic changes in

trends in organizational learning. Today's employees work in several locations, have access to a huge amount of information and want to determine the way and time of learning.

Throughout the years, some new forms of informal learning have developed such as micro-learning, gamification and social learning.

Micro-learning

The basis of micro-learning is based on a perfectly accelerated lifestyle and the use of mobile devices. People who are educated in any way want to get this information quickly and in moments when they are right for them. Using mobile learning, this is possible, and by improving it, it creates the opportunity to create an environment for micro-learning. Micro learning can be defined as a way to provide content and material at short intervals - for a few minutes. In this way, the attention of the person can be kept completely, so that the long classroom hours that last for an hour or more slowly become a past.

Gamification

Gamification is the most popular approach to learning in the last few years, a combination of motivation and distributed learning using elements of "gaming." It is important to emphasize that these elements have the task of engaging "learners" for the purpose of learning, and not just to entertain it. Creating a learning process with elements of gamification is challenging and expensive, but with proper setting of learning goals, it gives excellent results.

Gamification has, at the moment, become one of the "attractive" words that signal the transition to human resources access. As the name suggests, gamification allows organizations to take standard parts of the working day and make them fun and hire employees.

Through IT technologies, games can be created based on everyday routines and tasks that are integrated in employee training or recruiting. This work principle results in a classic "win-win" situation, as it contributes to higher quality and higher productivity. Gaming has helped companies set and manage customized criteria to track staff performance, improve their development and motivate them to learn.

Social learning

We no longer use social networks for entertainment and communication, but as a tool for sharing knowledge and learning. The younger generation enjoys the benefits of Facebook, Twitter, Snapchat, YouTube and other networks, and employees who share knowledge and want to learn this way show a high level of proactivity and inclusiveness. Using this form of learning, companies add value to their business and show how willing they are to change, while employees get information exactly when they need it.

Today's "disciples", younger and older, are impatient and burdened, but empowered and ready to cooperate. They want processes and learning methods to be individually tailored and interactive. eWyse, as an e-learning agency, encounters these challenges every day, but the same challenges encourage creativity and improve the quality of learning. Companies and other organizations must constantly adapt to these trends, but also listen

to what follows in 5 or 10 years. We do not train people anymore, but we need to create learning conditions everywhere around us, and at all times provide full support.

Mobile learning in formal education

In Europe, mobile learning began in the 1980s when handheld devices were first tested in several schools. Broadly speaking, mobile learning originated in the mid-1990s with research projects that exploit a new generation of tablet pens and PDAs for learning.

Many governments, policy makers, parents and teachers view mobile technologies as disruptive devices and are concerned about inappropriate behavior like cheating and cyber bullying. Many countries have banned or restricted the use of mobile devices at school, such as with France.

Mobile learning in Asia was a relatively new phenomenon. This is because countries differ from each other in terms of their technological and social infrastructure, economic development, educational contexts and level of implementation and integration of ICTs. Nevertheless, in the last decade there has been remarkable progress in the development of ICT in Asia.

Unfortunately, the use of mobile technologies for educational purposes remains a controversial issue in many Asian countries. The use of mobile phones in schools has caused concern, as mobile technologies are considered confusing, addictive and harmful. However, the positive thing in all this is that, despite controversial issues, there is a considerable interest in mobile learning in Asia.

Many efforts to introduce mobile learning are usually conducted individually in schools.

Research in high schools of Bosnia and Herzegovina

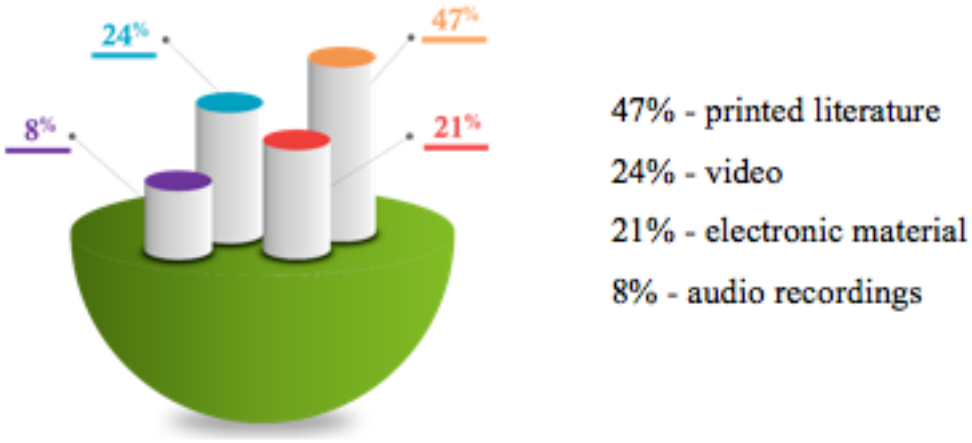
During the survey questionnaire, 387 respondents attended high school. The research was conducted in the period of January and February 2018. The schools that were included were:

1. Mješovita srednja tehnička škola, Travnik
2. Mješovita srednja škola, Zenica
3. JU Mješovita srednja elektro-mašinska škola, Lukavac
4. Turističko-ugostiteljska škola, Tuzla
5. Srednja strukovna škola "Silvija Strahimira Kranjčevića", Livno
6. JU Gimnazija, Mrkonjić Grad
7. Srednjoškolski centar, Doboj

In this survey there were five high schools from federation Bosnia and Herzegovina and two high schools from Republic of Srpska. The questions of this research were focused on students handling mobile devices and their usage in teaching and their leisure time.

Considering the introduction of new technologies in teaching, it was necessary to explore what students preferred when learning new information. In the set question, a scale of 1 to 4 was offered, which was intended to determine which of the above answers was most often used for the aforementioned purpose. The offered answers were: printed literature, electronic material, video and audio recordings.

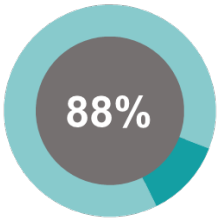
Figure 7. Learning tools



In addition to standard print literature, students chose the video option as the second most widely used learning method. YouTube, as a content sharing service, can turn out to be an excellent medium for sharing information. The fact that it is highly focused on details makes it easy to search for information. Searching for content on YouTube is very easy and very quickly comes up with a response to the requested question, without having to spend a lot of time - as was the case with extensive presentations or e-books. The educational character of this media should not be challenged but should become an integral part of the teaching and educational process, by the very fact that it is already widely used by students and students.

Based on the Figure 7. Learning tools, we can deduce that students prefer books over any other electronic media. Reflecting that question, we asked about the extent to which the use of mobile technology is used and implemented during teaching (during school hours). The results we got in our opinion were very bad. A large percentage of students (about 88%) have given the answer that they don't have any kind of mobile technologies used as a teaching support. Bosnia and Herzegovina's educational system hasn't quite caught up with the available educational tools and techniques.

Figure 8. The percentage of students who don't use mobile technologies during class hours



When asked about the usage of Internet in their leisure time the results vary. We used the Likert scale. The top three results were Search engines with 62.27% answering always, YouTube service with 58.66% answering always and Facebook social network with 53.75% answering always.

	Never	Seldom	Sometimes	Often	Always	Answers
Facebook	3,36%	9,04%	15,25%	18,60%	53,75%	100%
	13	35	59	72	208	387
YouTube	2,84%	2,33%	10,08%	26,10%	58,66%	100%
	11	9	39	101	227	387
E-mail	12,14%	24,03%	20,67%	10,08%	33,07%	100%
	47	93	80	39	128	387
Twitter	53,49%	9,82%	2,33%	11,37%	23,00%	100%
	207	38	9	44	89	387
Web portal - forums	23,26%	15,76%	14,99%	17,57%	28,42%	100%
	90	61	58	68	110	387
Chat	14,99%	2,33%	7,49%	26,87%	48,32%	100%
	58	9	29	104	187	387
Skype	31,27%	24,55%	7,24%	2,84%	34,11%	100%
	121	95	28	11	132	387
Search engines	6,20%	6,46%	16,02%	9,04%	62,27%	100%
	24	25	62	35	241	387

Concluding Thoughts

Today, it is impossible to bypass ICT and its use because computer literacy stands just next to the writing and reading skills. The generations that are sitting in school benches today, as well as those who are just sitting, grow with technology. Students today, independently, very skillfully and bravely explore new technologies and their possibilities. All participants in the learning process need to work as quickly and effectively as possible to follow the latest developments in the world of technology.

It is therefore very important to cooperate with colleagues with professors, students, and to exchange fresh ideas and learning opportunities - to learn the whole life. Learning does not end with passing an exam, defending final or diploma work. On the contrary, a man learns while he is alive. Likewise, it is very important to recognize the direction in which education will go through the future and adapt to that direction with all the technologies available.

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