

Ghanaian Graduates in Enterprise

A dissertation submitted by

Jerome Rudolf Awortwe-Abban

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Reading Committee

Promoter:

Professor dr A.H.J. Helmsing
International Institute of Social Studies

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Jerome Rudolf Awortwe-Abban
December 2009

Dedication

*Aba Mansah
(My Mother)*

*Kodwo Awortwe
(My Father of Blessed Memory)*

*Kwamina Ackon
Araba Kumunam
Kwesi Nyame
Nana Kofi Ackon
Nana Ekuwa Bedu
NanaKodwo Elidwo
Ama Ackon
(My Siblings)*



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Acronyms

AC	Alternating Current
AGI	Association of Ghana Industries
AIN	Africa Incubator Network
APDF	African Project Development Programme
AVO	Ammeter, Volt and Ohms
BPC	Business Plan Competition
C&J	Carpentry & Joinery
DC	Direct Current
DE/E	Dual Employed (Employment) as an Entrepreneur
DE/OAW	Dual Employed (Employment) as an Own-Account Worker
DfID	Department for International Development
ED	Entrepreneurship Development
ELN	Enterprise Learning Network
ER	Electrical Rewinding
GCE	General Certificate of Education
GE	General Electrical
GES	Ghana Education Service
GHIE	Ghana Institute of Engineers
GIMPA	Ghana Institute of Management and Public Administration
GNTDA	Ghana National Tailors and Dressmakers Association
GoG	Government of Ghana
GRATIS	Ghana Regional Appropriate Technology Industrial Service
GSB	Ghana Standards Board
GTP	Ghana Textile Product
ICT	Information and Communication Technology
IFC	International Finance Committee
IHC	Initial Human Capital
ILO	International Labour Organisation
IRS	Internal Revenue Service

ISSER	Institute of Statistical, Social and Economic Research
JHS	Junior high school
KNUST	Kwame Nkrumah University of Science and Technology
MASLOC	Micro-Finance and Small Loans Center
MBA	Masters in Business Administration
MDG	Millennium Development Goal
MDPI	Management Development and Productivity Institute
MSE	Micro and small enterprise
MSME	Micro, small and medium enterprise
NAR	Nescafe African Revelation
NBSSI	National Board for Small Scale Industries
NEPAD	New Partnership for Africa's Development
NGO	Non-governmental organisation
NYF	National Youth Fund
OECD	Organisation for Economic Cooperation and Development
OEM	Original equipment manufacturer
R&D	Research and development
RPED	Regional Program for Enterprise Development
SE/E	Self-employed entrepreneur
SE/OAW	Self-employed own-account worker
SHS	Senior high school
SIFE	Students in Free Enterprise
SMEs	Small and medium enterprises
STEP	Skills Training and Employment Placement Programme
T&D	Tailoring & Dressmaking
TAT	Traditional Apprenticeship Training
TMA	Tema Metropolitan Assembly
TQM	Total quality management
TTI	Tema Technical Institute
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organisation
UNOWA	United Nations Office for West Africa
VCTF	Venture Capital Trust Fund
VoIP	Voice over Internet Protocol
VSP	Vocational Skills and Informal Sector Support Project
WE	Wage-employed
YEN	Youth Employment Network



Abstract

The problems of the Ghanaian labour market are often characterised as being structural, with economic restructuring having pushed people out of wage employment and into contracts, and where new job seekers are compelled to look for alternative sources of employment outside the wage sector. This thesis is based on the premise that people have occupational aspirations and expectations which to some extent influence their occupational destination. They have preferences, want their autonomy and independence, and also perceive self-employment as more rewarding than wage employment. Based on this premise, the central argument of the thesis is that the generation of entrepreneurship requires not only universal primary education but also higher levels of education. University graduates are an important source of entrepreneurship for at least two reasons: as a primary order effect of creating income and employment, and a second order effect of contributing to the formation of other types of entrepreneurs. Therefore, universal primary education is necessary but not sufficient. Secondly, enterprise formation is not something that occurs by default or something that people do as a second choice because of structural factors; people have the drive to do it. This makes the issue of agency critical. While literature relates most of the challenges faced by enterprises to exogenous factors, this study posits that the enterprises need competencies to cope with the exogenous factors. The thesis draws on various strands of theory such as on small enterprise development, competence theory of the firm, technological capability theory, human capital theory and network theory.

The author traced 121 graduates from different initial human capital formation, namely Kwame Nkrumah University of Science and Technology (KNUST), Tema Technical Institute (TTI) and Traditional Apprenticeship Training (TAT) who have set up their own enterprises in five sectors: ICT, Electrical Rewinding, General Electrical, Tailoring & Dressmaking, and Carpentry & Joinery. The choice of sectors provides a broad spectrum of economic activities and there is an overlap in some of the sectors; for example, General Electrical is offered at both KNUST and TTI, and Carpentry &

Joinery is offered at TTI as well as in TAT. A field survey and case histories were used. Knowledge of experts was drawn upon to identify the key competencies necessary for enterprise success and competencies were related to success indicators that the graduates defined themselves.

The thesis draws a number of conclusions, including:

1. Graduates have different initial human capital, or levels of education, and this expresses itself in differences in agency. They followed different pathways, with most university graduates often going through dual employment before becoming fully self-employed, mostly as entrepreneurs rather than as own-account workers.
2. The graduates have their own conception of enterprise success, which was used as the basis for assessing their performance instead of the traditional accounting ratios which are less meaningful to micro and small enterprises.
3. Graduates have different initial human capital, which influences their lifelong learning (enterprise learning). The more competent and successful enterprises learn through opportunity networks rather than through bonding networks.
4. University graduates are more competent and more successful than the other graduates.
5. One important source of learning for the graduates is on-the-job experience.
6. Technical competencies, though necessary, do not explain the success of the enterprises. Rather, general competencies (management and marketing) complement each other to ensure an enterprise's success.
7. It is also clear that the higher the initial human capital endowment and level of education, the higher the number of jobs created.
8. Graduates' reasons for going into self-employment are more related to psycho-social than economic factors, and reasons for going into dual or wage employment are to gain more exposure, develop professionally and accumulate capital for their own enterprise.



Samenvatting

De Ghanese arbeidsmarkt wordt vaak in structuurgerelateerde termen omschreven. Daarbij ligt de nadruk op het feit dat mensen door economische herstructurering noodgedwongen van een dienstverband in loondienst overstappen op contractarbeid, en dat nieuwkomers op de arbeidsmarkt werk moeten zoeken buiten de loondienstsector. Dit proefschrift gaat er echter vanuit dat mensen ambities en verwachtingen hebben die hun uiteindelijke werkkring tot op zekere hoogte bepalen. Ze hebben voorkeuren, stellen prijs op zelfstandigheid en onafhankelijkheid, en zelfstandig ondernemerschap geeft hun in hun ogen meer voldoening.

Op grond van deze aanname is de centrale stelling van dit proefschrift dat basisonderwijs op zich niet voldoende is om te zorgen dat er ondernemers komen, en dat er ook hoger vervolgonderwijs nodig is. Mensen met een universitaire opleiding stimuleren ondernemerschap namelijk op twee belangrijke manieren. Ten eerste creëren ze werkgelegenheid, en ten tweede leveren ze een bijdrage aan de vorming van andere typen ondernemers. Dit betekent dat algemeen basisonderwijs noodzakelijk, maar niet voldoende is.

Een tweede stelling is dat mensen een onderneming niet zomaar starten, of omdat ze geen andere keus hebben, maar omdat ze het graag willen. Het economisch gedrag en de belangen van actoren spelen dus een essentiële rol. De meeste problemen waarvoor ondernemingen komen te staan hebben weliswaar te maken met externe factoren, maar ondernemingen hebben competenties nodig om deze externe factoren het hoofd te bieden. Dit onderzoek is gebaseerd op verschillende theorieën, zoals theorieën ten aanzien van de ontwikkeling van kleine ondernemingen, de competentie van bedrijven, technologisch vermogen, menselijk kapitaal en netwerken.

Het onderzoek is gedaan onder 121 afgestudeerden van verschillende opleidingen: de Kwame Nkrumah University of Science and Technology (KNUST), het Tema Technical Institute (TTI) en de Traditional Apprenticeship Training (TAT; traditioneel beroepsonderwijs). Deze afgestudeerden hebben allemaal een eigen bedrijf opgericht in een van de volgende vijf

bedrijfstakken: ICT, elektro- en wikkeltechniek, elektrotechniek in het algemeen, kleding maken en timmer- en schrijnwerk. De data zijn verzameld door middel van veldonderzoek en casestudy's. Deskundigen uit de verschillende bedrijfstakken zijn gevraagd om aan te geven wat de belangrijkste competenties zijn die ervoor zorgen dat een bedrijf succesvol is en deze competenties zijn in verband gebracht met indicatoren van succes die de afgestudeerden zelf hebben gedefinieerd.

Op basis van dit onderzoek kunnen verschillende conclusies getrokken worden:

1. Afgestudeerden verschillen wat betreft hun menselijk kapitaal en opleidingsniveau, wat tot uitdrukking komt in hun economisch gedrag en loopbaan. Mensen met een universitaire opleiding hebben meestal twee banen voor ze volledig voor zichzelf beginnen, en zijn vaker ondernemer dan zelfstandige zonder personeel.
2. De afgestudeerden hebben hun eigen maatstaven voor het succes van een onderneming. In dit onderzoek zijn hun prestaties beoordeeld op grond van deze maatstaven en niet op basis van de gebruikelijke boekhoudkundige criteria, omdat die minder relevant zijn voor (zeer) kleine bedrijven.
3. Het aanvankelijk menselijk kapitaal van afgestudeerden is verschillend, en beïnvloedt hun vermogen om een leven lang te leren (het leren van de onderneming). De competentere en succesvollere ondernemingen leren meer van netwerken die kansen bieden dan van vriendschapsnetwerken.
4. De afgestudeerden met een universitaire opleiding zijn competent en succesvoller dan de andere afgestudeerden.
5. Afgestudeerden leren veel door praktijkervaring op te doen.
6. Technische vaardigheden zijn weliswaar noodzakelijk, maar niet doorslaggevend voor het succes van een onderneming. Vooral algemene vaardigheden (management en marketing) die elkaar aanvullen bepalen of een onderneming slaagt.
7. Hoe hoger het aanvankelijke menselijk kapitaal en opleidingsniveau, hoe meer banen er gecreëerd worden.
8. De redenen van afgestudeerden om voor zichzelf te beginnen hebben meer met psychosociale dan met economische factoren te maken. Afgestudeerden die twee banen (in loondienst) nemen doen dat om ervaring op te doen, zich professioneel te ontwikkelen en vermogen op te bouwen voor hun eigen onderneming.

1

Agency: Ghanaian Graduates in Enterprise

Entrepreneurship and business creation are ... a growing alternative for young people whose age group often faces a labour market with double digit unemployment rates. Traditional career paths and opportunities are disappearing rapidly. A growing number of young people are taking up the challenge of starting their own business and much is being learned about how the odds for success can be improved through various types of assistance and through the creation of a supportive environment. – Juan Somavia.¹

1.1 Introduction

The opening statement attributed to Juan Somavia is pregnant with issues but starts with unemployment as the underlying factor. The unemployment is related to absorption of people in the wage sector, especially in public and large private establishments. Until recently, wage employment in state establishments or large private establishments was seen as the only way for new job entrants to make a living. Employment in micro, small and medium enterprises (MSMEs) had a negative image and was given labels such as the informal economy or shadow economy. It appears the importance of self-employment in the MSME sector has not been unearthed.

Self-employment is a hidden treasure the value of which is known to and highly appreciated only by those already in it and the households in which such economic activities take place. In Ghana, many generations of men and women are self-employed and those who are committed to their businesses have positive stories to tell. They speak derisively of wage employment and mock the ‘victims’ who find themselves in it. Some women traders do not like to sell to public servants because they perceive them as being poor; they consider talking to them a waste of time because such customers like to bargain. It is even worse if the cus-

tomers is a *teacher ne yer* (teacher's wife). This is a telling effect of the decline in public sector real wages in sub-Saharan Africa.

In the African context, involvement in family enterprises, one-woman or one-man enterprises or micro enterprises is often associated with poverty and low education. However, an illiterate woman who has been selling *kakro* (deep-fried plantain and flour balls) or operating a chop bar (basic restaurant) or selling tea and bread by the roadside at Shama, or trading at the Makola market in Accra or the Asafo market in Kumasi for years, and who has enabled her children to achieve their potential, can hardly be termed poor. This is a term that my illiterate mother, now about 96 years old, who through the income from her sewing in the early years of her life, fish business and sale of food was able to raise and educate her eight children and those of extended family members and even strangers, has always rejected. Of course, SMEs, like any business in the public sector or large private establishments, have their own challenges and some people engage in them as a last resort. Employment is a justifiable concern. As Blakely (1994: 2) puts it: 'The promise of a job and economic security are the hallmarks of citizenship. Work is the basis of social and economic status. The absence of works or the lack of opportunity to work destroys the basic building block of the nations' socio-political system.'

The point is to do one's job effectively and efficiently. To quote Awortwe-Abban (2008: 1):

In the Akan tradition of Ghana, a person working is greeted with the words *edwuma*, *edwuma o* or *mbo na edwuama* which literary translates as *Work! Work!* or *Well done for a good job* and the response is (*yaa*) *edwuma yie*, literary meaning (*yes*) *work is good*. The greeting is to wish the person a fruitful or productive work and that no mishap should befall him or her in carrying out the job. This encouragement (*abasobo*) is given because of the profitable nature of work to society. [Laziness] is frowned upon and does not earn such *abasobo*. Work is seen as dignifying, opening up vistas for successful living, and hardworking is held in high esteem. Work is an expression of humankind's use of their God-given talents. The first commandment of loving God with all our hearts, soul, mind and strength (Mark 12:30) demonstrates the composition of man as being made up of the body (mind, strength and heart,) and the spirit (soul). The three dimensions of the body correspond to the expectations in individual work performance, what we call performance indicators - where people are assessed on the basis of their knowledge or cognition (mind), psychomotor (skills) and the affective (heart).

However, wage employment should not be seen as the only way to work and earn an income.

1.2 Employment and Micro and Small Enterprise Issues in Ghana

New entrants into the Ghanaian labour market are mostly youth². Statistics on Ghanaian youth are patchy, but they do give some idea of the employment pattern in Ghana. The 2000 population and housing census of Ghana found that the youth (aged 15 to 24) formed about 18.5% (3,498,734) of the nation's population of approximately 19 million. Of these, 3,036,901 were either unemployed or under-employed (YEN-Ghana, 2002).

Shift in Labour Market

Ghana's independence brought in its wake public sector industrialisation and its concomitant human resource development programme which focused on producing graduates mainly to fill positions in the public sector units. This created a popular notion over time that wage employment is the only source of employment and people become unemployed because economic circumstances have directly or indirectly compelled (public sector) employers to downsize. This fails to take into account the following fundamental questions:

- Why do some young workers choose to end their engagement with their employers during retrenchment even when they have the option to stay on? Many explanations can be given for such actions, including the internal politics of an organisation, individual idiosyncrasies or the desire to strike out on their own, and inability to achieve career aspirations.
- Is wage employment the only option for people or always the first choice of new entrants in the labour market? The impression is often given that the first route to the labour market is through wage employment, and studies on employment, especially of university graduates, tend to concentrate on their possible engagement in the public or large private sector establishments. Consequently, the yardstick for manpower planning has been the emphasis on the propensity of the public and large private sector organisations to absorb graduates from educational institutions.

- Do job seekers and employees have a choice as to the kind of job they would like to do? People have choices and may forego even the most highly paid jobs in the public and large private sector units in order to achieve their goals.

In brief, people do aspire for a better life and it is often wrongly assumed that new job entrants or employees do not have choices as to where to work or the sort of job they would like to do. People do have choices and have the option to do whatever they deem fit. For example, Livingstone et al. (1987) found that most middle school leavers in Ghana were unenthusiastic about rural jobs, and that 18 months after leaving school 57% of them were still unemployed (Livingstone et al., 1987: 473). Tertiary graduates also have big expectations of high-status jobs and good incomes after graduation (Boateng and Ofori-Sarpong, 2002: 39). King and McGrath (2002: 95) observe that the labour market has changed significantly.

The Ghanaian labour market has changed dramatically over the past 40 years. The concept of ‘emergent sector’ and ‘exchange sector’ have made way for terms like the ‘formal sector’. More importantly, the chances of formal sector employment and its remuneration have shown a remarkable decline in relative terms. As a result, many apparently formal sector workers ‘straddle’ at least two jobs, and the formal-informal sector divide.

While information on the Ghanaian labour market is patchy, the data in MESW (1998), given in Appendix A1.1 and A1.2, provide some insight. Appendix A1.1 shows a persistent rise in the demand for labour from private sector enterprises and Appendix A1.2 indicates that public units have ceased to be a major wage employer. Thus, there has been a shift in the labour market (except in 1997) from public sector employment, with the central government as the main employer, towards the private sector.

The problems of the Ghanaian labour market are often characterised as being structural, with economic restructuring having pushed people out of wage employment and into contracts, and where new job seekers are compelled to look for alternative sources of employment outside the wage sector. However, this thesis is based on the premise that people have occupational aspirations and expectations which to some extent influence their occupational destination. They have preferences, want their autonomy and independence, and also perceive self-employment as more rewarding.

Due to Ghana's structural adjustment policies in the 1980s, private enterprise development is usually linked to privatisation of state enterprises and its effect on employment in the public sector. The finding of Boateng and Ofori-Sarpong (2002: 2-3) indicate that there is oversupply of Ghanaian arts and humanities graduates but undersupply of those in engineering, accounting, medicine, information technology and management. Yet the graduates in the study, including those in ICT and General Electrical, still take up self-employment. This implies that structural issues are not the only drivers towards self-employment. Frazer (2006) also explains the reasons for enterprise formation in structural terms, finding that the human capital of apprenticeship graduates in Ghana is technology-specific, making them virtually useless to other apprenticeship firms. Thus, firms have a monopsony with regard to their own apprentices and pay them a marginal wage. The productivity of an apprentice can only be recognised by his or her own master or mistress. This leaves the apprentice with only the option of setting up his or her own enterprise.

...once the apprenticeship is finished, the apprentice can also continue to work in the master's firm. While the apprenticeship knowledge is certainly applicable in this context, the master, and not the apprentice, reaps the returns to this knowledge. The reason for this is the fact that while the former apprentice is more productive in their master's firm, he is not more productive in other firms, [in the same industry] and so his outside wage option is low. The master, therefore, only needs to pay the former apprentice marginally above his wage option in order to retain him in the firm. Only in self-employment will the former apprentice receive his full marginal product (including the apprenticeship-enhanced productivity) as a wage. (Frazer, 2006: 4-5)

In this sense, a graduate apprentice serves as human capital 'restricted' to the master or mistress, and self-employment is presented as an option of last resort for these (TAT) graduates. The counter argument is that a competitor will poach the graduate apprentice of another competitor who is has a reputation. The 'poacher' thereby avoids the training cost of and can therefore pay a slightly higher wage than the apprentice's master does.

Interestingly, this current study found that the graduates' reasons for setting up their own enterprises have nothing to do with lack of wage employment, which lends credence to its contention that agency plays a crucial role in enterprise formation. Marsden (1990), Thuy et al. (2001) and Szabo (2003) also report similar finding.

1.3 Agency and Occupational Choices

Douglas and Shepherd (1999) refer to entrepreneurial intentions and choice of a career as a 'utility maximising response'. They analyse it with the utility model of human decision-making, which postulates that 'individuals select the course of action which promises, in prospect, the greatest utility (or psychic satisfaction). Some elements of a course of action may involve disutility (dissatisfaction), therefore, such irksome elements will offset to some degree the utility derived from more pleasurable elements of that course of action.' In relation to career choice, they postulate that 'the individual chooses an entrepreneurial career path, or a career as an employee, or some combination of the two, according to which career path promises maximal utility (or psychic satisfaction)' (Douglas and Shepherd, 1999: 234). This is based on the assumption that the utility to an individual of any occupation, be it self-employment or employment, depends on certain factors, namely, income (which also depends on the individual's ability), conditions of work (for example, required effort, control over decision-making, exposure to risk, independence and other conditions), which may be termed net perquisites, that are associated with the occupation. 'Individuals will exhibit either preference or aversion towards each of the specified working conditions, and it is the degree of that preference or aversion, in conjunction with the quantum of each working condition, which determines the total utility that the individual will derive from each particular occupation' (Douglas and Shepherd, 1999: 231).

Souitaris et al. (2007: 567) apply the theory of planned behaviour to test how entrepreneurship education impacts on the attitudes and intention of science and engineering students. They use control and experimental groups in their study. One of their conclusions is that the entrepreneurship programme raised the students' entrepreneurial attitudes and intentions. The increase in 'subjective norm and intentions towards self-employment' was related to inspiration resulting from the programme. This, according to them, has implications for programme developers: '...whereas knowledge and resources might increase the likelihood of success for those who are going to start a new venture, it is the inspiration that raises attitudes and intention and increases the chances that students will actually attempt an entrepreneurial career at some point in their lives.'

According to Walsh (1998), structure and agency are central to the investigation of social life. The concept of structure is central to sociology

and is often used to refer to 'any recurring patterns of social behaviour.' Such behaviour is common and regular and therefore has a constraining effect on other people, with all individuals tending to act according to the pressures that are exercised by the social structure. Agency, on the other hand, is the extent to which individuals exercise their free will in social action and is expressed in accordance with the degree of constraint that individuals experience from the structure. Due to structural factors such as poverty and political oppression, some individuals have less agency than others (Walsh, 1998: 33). In other words, some individuals face greater restrictions to exercise their agency.

Walsh puts forward two arguments in explaining society and its structure. The first is that individual members are agents of their own actions and they relate to one another in terms of that agency. The other is that society and its structure are seen as a system of relationships determining individuals' action in accordance with the workings of the systems which condition their behaviour. Agency is referred to as individualistic, voluntaristic or action sociology, and is contrasted with holistic, deterministic or structuralist sociology.

The basis of the structuralist position is that people are essentially social creatures and by their nature formed by their social habitat, society which is *sui generis*, that is 'existing in its own right'. Thus, 'it makes no sense to talk of human beings as individuals as though they can and do exist independently of the social context in which they necessarily live together with one another' (Walsh, 1998: 9). Structuralist sociology treats society as autonomous and made up of structures and institutions which control individuals' actions, which are 'dictated by the economic and cultural factors that have produced it and which are extra-individual. Thus the degree to which the members of society are agents of their own existence and their relationships with one another is quite minimal' because their actions, thoughts, values and interests are all determined by their position within the structures and institution (Walsh, 1998: 11). This view is rejected by action sociology, which argues that 'human beings can and do make themselves into what they are; they are able to take charge of their own lives and to shape the social world into forms which meet their own needs.'

This study does not rule out the possible influence of structure on the graduates' decision to go into self-employment; it thus agrees with Giddens (2006) who finds that human societies are always being reconstructed by human beings who are the 'building blocks'. 'Human socie-

ties are always in the process of structuration' (Giddens, 2006: 8). In other words, he explains structuration as a two-way process by which individual actions shape the social world and society in turn reshapes individuals. Giddens's theory avoids extremes of either structural or agent determinism because of the interplay of the two in real life situations. He uses the expression 'duality of structure' as a balance of the two. Building on Durkheim's work, he argues that although 'social facts' may constrain human action, they are not determinants of what they do. 'As human beings, we do make choices, and we do not simply respond passively to events around us. The way forward in bridging the gap between 'structure' and 'action' approaches is to recognize that we actively make and remake social structure during the course of our everyday activities' (Giddens, 2006: 108).

Vroom (1964) lists three types of occupational choices: occupational preferences (preferred occupation), occupational choices (chosen occupation) and occupational attainments (attained occupation). An individual's preferred occupation is the occupation with the highest positive valence at a given time. He assumes that differences in valence or attractiveness exist in occupations, with some being positive, negative or indifferent.

Entry into the labour force is preceded by selection from preferred forms of work available (*occupational preferences*) before a choice is implemented. Thus, *occupational choice* is the 'process of selection among occupations.' The chosen occupation is the one that the person is attempting to enter. Enrolment in a training programme for a particular occupation is an indicator of the choice of that occupation. *Occupational attainment* is the occupation being practiced currently. This can be ascertained from either records or verbal reports.

The occupation preferences may not be the same as the occupation choice, which in turn may be different from the occupational attainment. Various factors account for these discrepancies. Vroom in reference to Strong (1943) cites lack of 'necessary ability, personality, and health' as one of the factors explaining deviation of choices from preferences (Vroom, 1964: 55). The discrepancy between occupational choice and attainment may also be due to failure 'to cross one of the necessary hurdles for entry into that occupation. Successful attainment of an occupation is a result of two sets of choices – one by an individual, the other by social institutions. People not only *select* occupations, they *are selected* for occupations. This latter process serves to maintain standards of performance in occupations by admitting only those who are expected to

prove effective. It also helps to maintain the level of rewards received by members of occupations by keeping supply lower than demand.’ (Vroom, 1964: 56)

Agency is also to be found in the expectancy theory regarding choices that people make to become business owners as they take into account the resulting outcome of their actions and the value they attach to such outcomes. According to Gatewood (2004: 154), ‘[T]he theory assumes that behavior will be undertaken when the individual believes that he or she is able to perform at the required level, that successful performance will lead to certain outcomes, and that these outcomes have direct positive value or will lead to other outcomes.’ This is alternatively called the ‘VIE’ theory because it is made up of three variables: valence, instrumentality and expectancy. Valence concerns the preferences of individuals for a particular outcome – its attractiveness, the perceived value or worth of the outcome. The outcome can either be the ends (*first-level outcomes*) or means (*second-level outcomes*). Instrumentality is about the perceived relationship between these outcomes, and expectancy is the ‘belief concerning the likelihood that a particular act will be followed by a particular outcome’. It is the individual factors – abilities, efforts and past experiences – and situational factors that influence expectations. For example,

...an individual may feel positive to entrepreneurship because of a belief that starting a company would be a highly valued event that would lead to other valued outcomes, such as monetary rewards and independence. That individual might not choose that occupation, however, because of low expectations about being successful. Another individual might have high expectations for success but perceive the occupation negatively, for example, as requiring long hours and with low social status. That individual is also unlikely to choose the occupation. It is the individual who both perceives starting a business as a desired outcome, leading to other desired outcomes, and expects to be successful who will choose to engage in entrepreneurial activity (Gatewood, 2004: 154).

1.4 Central Arguments of the Thesis

Enterprise development is important to people but requires competent individuals to make a difference. Entrepreneurship is not something that can only be generated through universal primary education; it also requires higher levels of education. University education is an important source of entrepreneurship in at least two ways: first, by creating employment and, second, by contributing to the formation of other types of

entrepreneurs. Also, forming an enterprise is not something done by default or as a second choice; people have the drive to do it. For most people, wage employment is transitory – a second choice – it is undertaken as long as it is necessary for the accumulation of the resources and skills necessary to set up an own enterprise. This makes the issue of agency critical to this research. By exercising their agency, individuals follow different employment pathways, acquire and renew their competencies. As such, agency is dynamic. The question is, do graduates differ in the acquisition of competencies in relation to their initial human capital endowment?

This study has focused on endogenous factors that can help enterprises address the exogenous challenges they encounter. An important point here is that agency is key to overcoming structural challenges that SMEs face. This agency is augmented by competencies.

Figure 1.1
Process for attaining entrepreneurial success

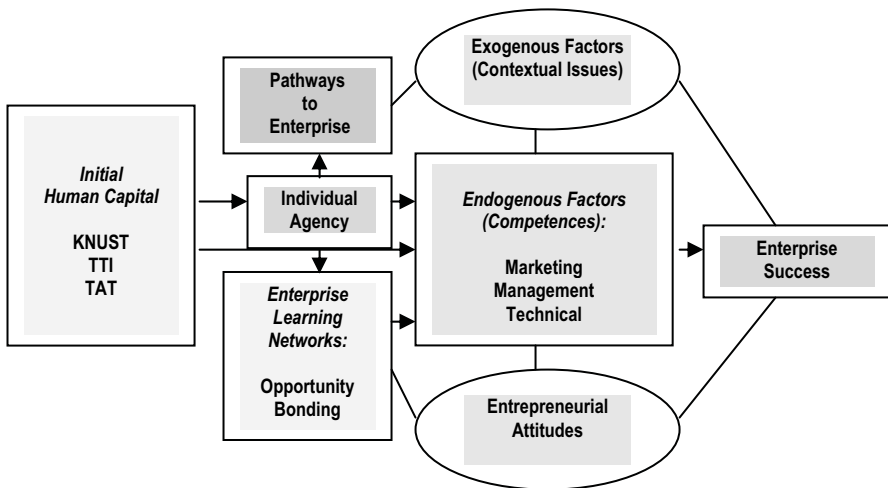


Figure 1 presents the process through which graduates attain entrepreneurial success. Graduates are endowed first with some competencies from their initial human capital, which serve as the basis for starting their enterprises. The initial endowment paves the way for further acquisition of competencies through enterprise learning networks. These two sources

of competence contribute to enterprise success. Figure 1.1 is in line with King and McGrath (2002: 112): ‘Enterprise is given rhetorical support in a number of countries, but there has been limited thinking about cross-sectoral connectivities between education, training and enterprise development. It is important to consider how enterprise development and education can be better articulated in policy and in practice.’

This study posits that exogenous factors are not as critical for starting an enterprise as endogenous ones are. Endogenous factors enable management of the exogenous ones. Entrepreneurial attitudes are held constant. Thus, the study does not analyse exogenous factors and entrepreneurial attitudes.

1.5 Research Objectives

The study has the following objectives:

- to assess the degree of success of graduates who have operated their enterprises for at least three consecutive years
- to explore the differences, if any, in the pathways to enterprise development among graduates with different initial human capital endowments – KNUST, TTI and TAT
- to analyse the key competencies that account for the success of the enterprises
- to identify the key competencies acquired during enterprise formation
- to identify the key competencies acquired during enterprise development.

1.6 Research Questions

To achieve the above objectives, the study answers the following questions:

- Which of the graduates have become more or less successful in their enterprises as measured by their own success criteria?
- What are the pathways to enterprise development among the graduates?
- What are the key *general* and *sector/industry-specific* competencies in the fields of technical, management and marketing?
- What is the relative importance of formative education and training systems in the development of these competencies?

- What is the role of lifelong learning in the acquisition of the competencies?
- Is there a relation between competencies and enterprise success?

1.7 Methodological Issues

1.7.1 Tracer Method

The fieldwork covered a short period of at most one year and the tracer method was employed to obtain more data and information from the respondents. The method, according to (Psacharopoulos and Woodhall, 1985) is appropriate for a study such as this.

The purpose of tracer or follow-up studies is, as the name implies, to examine the subsequent careers and employment of a sample of school leavers or graduates. Some are designed to compare the success with which different educational institutions prepare young people for employment, while others are more concerned with collecting information about the labour market (Psacharopoulos and Woodhall, 1985: 96).

Similar to the questions addressed in this study, they indicate that the method is employed to seek information on questions including the following:

- What sort of jobs do graduates enter or what sort of work do they do and what do they earn? How do they compare in this respect with other groups in the labour force?
- To what extent is the content of work obtained related to the type of education received? Why do some people not enter jobs for which they are trained?
- What are the obstacles to setting up in self-employment?

A tracer study has two main advantages: provision of up-to-date information on the labour market and students' behaviour; and capturing information on the whole spectrum of employment opportunities instead of focusing on those who end up in large enterprises. 'If tracer studies can be periodically repeated for new sets of graduating students, then it may be possible to discover trends in the labor market and to monitor the effectiveness of new institutions and new programs with respect to their graduates' futures.' (Psacharopoulos and Woodhall, 1985: 97)

This type of study is very challenging and laborious, especially in the Ghanaian context where the location and addresses of enterprises are not easily accessible. The graduates in the respondent pool were selected

from Kwame Nkrumah University of Science and Technology (representing tertiary education), Tema Technical Institute (representing post-basic education or secondary/technical education) and Traditional Apprenticeship Training (representing informal education). Friends, classmates and schoolmates were very helpful. All but one of the graduates in enterprise had mobile phones, which facilitated the initial field survey and subsequent follow-up. Generally, the graduates cooperated during the interviews.

Table 1.1
Distribution of KNUST Electrical & Electronic graduates

Cohort		Gender	Location			
Programme	Year		In Ghana		Migrant ^a	Total
			Wage Employment	Self/Dual Employment		
BSc	1994	Females	1 (2.5%)	-	-	1 (2.5%)
		Males	16 (40.0%)	7 (17.5%)	16 (40.0%)	39 (97.5%)
		Total	17 (42.5%)	7 (17.5%)	16 (40.0%)	40 (100.0%)
BSc	1996	Females	2 (6.1%)	-	1 (3.0%)	3 (9.1%)
		Males	9 (27.3%)	12 (36.4%)	9 (27.3%)	30 (90.9%)
		Total	11 (33.4%)	12 (36.4%)	10 (30.3%)	33 (100.0%)
Diploma	1996	Males	7 (77.8%)	2 (22.2%)	-	9 (100.0%)
Grand Total			35 (42.7%)	21 (25.6%)	26 (31.7%)	82 (100.0%)

^aOf the graduates outside the country, 76.9% (20) are in the United States of America; 11.5% (3) in the United Kingdom, and 3.8% (1) each in Canada, South Africa and Nigeria. Almost all of them were in wage employment before leaving Ghana.

Graduates Who Become Entrepreneurs

The respondent pool from the Kwame Nkrumah University of Science and Technology (KNUST) comprised 82 Electrical & Electronic graduates. Of this number, 48.8% (40) completed the degree programme in 1994, 40.2% (33) completed the degree programme in 1996, and 11.0% (9) completed the diploma programme in 1996. Their distribution by gender and location is presented in Table 1.1.

The table shows that about 25% of the three cohorts of graduates have gone into entrepreneurship. Of the 1996 degree graduates, over 33% are entrepreneurs. This is a positive indication of private sector development in Ghana. The data also suggest high demand for graduates in the electri-

cal and electronics field; those who have become entrepreneurs had the option of wage employment but their agency had a greater influence in their decision.

Table 1.2
Distribution of TTI Tailoring & Dressmaking graduates

Cohort		Location				
Year	Gender	In Ghana			Migrant	Total
		Wage Employment	Self Employment	Dual Employment		
1993	Females	-	12 (52.2%)	^a 2 (8.7%)	^b 4 (17.4%)	18 (78.3%)
	Males	^c 2 (8.7%)	2 (8.7%)	^d 1 (4.3%)	-	5 (21.7%)
	Total	2 (8.7%)	14 (60.9%)	3 (13.0%)	4 (17.4%)	23 (100.0%)
1995	Females	1 (4.2%)	^f 12 (50.0%)	2 (8.3%)	2 (8.3%)	17 (70.8%)
	Males	1 (4.2%)	3 (12.5%)	2 (8.3%)	1 (4.2%)	7 (29.2%)
	Total	2 (8.4%)	15 (62.5%)	4 (16.6%)	3 (12.5%)	24 (100.0%)
Grand Total		4 (8.5%)	29 (61.7%)	7 (14.9%)	7 (14.9%)	47 (100.0%)

^aTwo were trained teachers whose costs at the TTI were paid by the Ghana Education Service. One of them is deceased.

^bTwo are in the UK, one in Italy and the fourth in the USA. One of them never worked; she left for the UK soon after completing the course.

^cOne graduate went into self-employment after the course. He was later employed at the Tema SOS International School as a dressmaking tutor. The second teamed up with a friend to open a shop but the partnership broke up and he later started working for someone on a 'work and pay basis'.

^dHe is also working at Nestle Ghana Limited as a tailor.

^eThe graduate was self-employed but later started working for Valco Aluminium Company as an employee.

^fOne is deceased.

^gDuring my first visit, he was operating his own enterprise. In my follow-up during the second fieldwork period, I found that he had been employed in the mines.

^hAll are also engaged in teaching in the sector as employees.

Table 1.2 summarises the distribution of the Tema Technical Institute (TTI) Tailoring graduates from the 1993 and the 1995 cohorts, which are basically the same. Over 70% are either in self-employment or dual employment (that is, working simultaneously for someone else as well as for themselves). In comparison with the Electrical and Electronic graduates, the TTI tailoring graduates have a higher tendency to be in self-employment or starting in self employment.

1.7.2 Age Criterion for Enterprise Success

The start-up phase of micro and small enterprises is considered very critical and ability to survive the first three years demonstrates the survival of an enterprise. Littunen et al. (1998), for example, use the continuing existence of an enterprise after the first three years as their measure of enterprise success. In Baldwin and Gellatly (2003) the mean age of the sample of firms is 3.5 years at 5th percentile of 1.0 and 95th of 9.0. Mead and Liedholm (1998) indicate that the first two years of enterprise life are critical:

We have seen that a significant number of these new enterprises do not survive this early period. Of those that do survive, many will not grow, either then or later. But of those that turn out to be growers, a significant number will have shown their capacity to expand already by the end of the second year, making it possible to identify fairly early in the life of the enterprise those that appear to have this potential (Mead and Liedholm, 1998: 70).

Therefore, by default, all the enterprises in the sample for this study were deemed successful since they had been in operation for at least three years.

1.7.3 Case Studies

The main field survey was complemented with case studies, which provided deeper insights into some of the issues and strengthened the qualitative and quantitative aspects of the research.

Case studies are termed a ‘triangulated research strategy’ in the literature, with the need for triangulation arising from the ethical need of confirming the validity of the processes (Tellis, 1997). They also enable examination of data at the micro level. Furthermore, they can be a practical solution when it is difficult obtain a big sample population, thus serving as an alternative to either qualitative or quantitative research (Zainal, 2007). Yin (2004: xii) states:

One strength of the case study methods is its usefulness when phenomenon and context are not readily separable, a condition that occurs in real-life but cannot easily be duplicated by laboratory research. Another strength is that the method enables you, as a social scientist, to address ‘how’ and ‘why’ questions about the real-life events, using a broad variety of empirical tools (for example, direct field observations, extended interviews, and reviews of documents and archival and quantitative records).

1.7.4 Identification and Construction of the Competencies

The study found that enterprise owners have their own definition of what constitutes 'core' competencies. Identification of competencies needed for success is one of the strategic technological capabilities (Arnold and Thuriaux, 1997). The author of this study exercised great care in compiling the competencies; the process was divided into four stages. In the first stage, the author contacted graduates in various sectors who were in touch with industries; they helped to identify experts in the five sectors that are the focus of this study. These experts know the local environment and the learning required for competition outside the local boundaries; therefore, they are in a better position to identify the competencies required. As King and McGrath (2002: 83) put it, 'Knowledge, skills and attitudes are all societally and personally constructed. There would be considerable danger in any attempt to construct a universalising canon of worthwhile knowledge, skills or attitudes.' In the second stage, the identified key informants were interviewed on technical (sector-specific), management and marketing competencies that they deemed necessary for enterprise success, taking into consideration the competition in the sector. In each sector, at most three people were interviewed for comprehensive information on the competencies. Each interview was first recorded and transcribed. In stage three, the data gathered on each sector were synthesised, printed out, and given to the experts for further comments and fine tuning. In the last stage, their final comments were used for the development of competencies for each sector.

The responses on management and marketing competencies were similar for all the sectors and so were designated as general competencies. Of the many specific competencies, the basic ones that are applicable to all the enterprises, irrespective of their sizes and years of operation, were used for the interviews. They were then defined in specific measurable terms to aid coding and scoring before using them for the construction of the interview schedule. The management and technical competencies basically dwell on quality and the marketing competencies focus on creativity.

The use of the experts in identifying the key marketing and general competencies is an innovation. Walsh and Linton (2001: 64) acknowledge the importance of using experts for such a purpose. 'Industry experts, due to their thorough knowledge of firms and competencies present in their industry, will recognise these competencies as important if their existence appears to be linked to competitive advantage and their absence

appears to be linked to disadvantage.’ However, they talked about the use of experts in identifying only the technical competencies in the semiconductor silicon industry, whereas in this study, marketing and general competencies were all identified by the experts. Another difference is that they first collected from the manufacturers the technical competencies by examination of ‘forecasts for semiconductor device technology’, and ‘semiconductor silicon’, and ‘examination of firms’ standard operating procedures. From these, 20 different technical competencies were identified as important to manufacturing. It was at this stage that they used 35 experts to rate on a five-point Likert scale the importance of each of the competencies. Of the 20, only seven were rated four or above and they were considered as critical for further consideration. The industry experts they used were company presidents, consultants and manufacturing managers. They justified the concentration on technical competencies in the following way:

Since it is a commodity material, the firms that have the greatest ability to perform the small number of required processing steps are most likely to be successful. The commodity nature of the product ensures that the advantages offered by managerial capabilities will be minimised and technical competences will be maximised (Walsh and Linton, 2001: 65).

Triangulation

Only one graduate claimed that a technical task was not applicable to his work. In a way, this served as triangulation to confirm that the competencies given by the experts were generally applicable to all the graduates. Furthermore, the responses to the question concerning the most important competency the graduates had learnt from each of the networks to a large extent confirm the competencies that the experts gave.

1.7.5 Notion of Success

The study assumes that any firm that has operated for at least three consecutive years must be successful. However, the graduates have their own conception of what constitutes success, which makes it meaningful to base their enterprise performance on those factors. The degree of success is defined more broadly than the financial ratios that are traditionally used to assess large enterprises’ performance at the end of the accounting period.

Cornwall and Naughton (2003) examine what they term ‘an underdeveloped notion of success’:

There is virtually no effort in the literature to ask entrepreneurs what success means *to them*. Is it creating jobs, creating wealth, creating and marketing a useful product or service, distributing wealth, or something even more deeply personal and principled? And there is no attempt to examine what entrepreneurial success means taken from a moral perspective, let alone a spiritual or religious perspective. That is, what is a *good* entrepreneur? (Cornwall and Naughton, 2003: 62)

For Van Dijk (2005: 187-8), definition of small enterprises' contributions is necessary before speaking about a dynamic enterprise sector and successful entrepreneurs. 'Are we talking about the level of profit, employment or income of the entrepreneur? Or is it turnover and hence the contribution to the national income?' Van Dijk (2005) indicates that different indicators are used in measuring the success of African entrepreneurs; since the entrepreneur is interested in profit, income is used as a proxy. Turnover is also used because of the ease of constructing it with precision; besides, it provides the basis for saying something about the 'economic weight of informal sector enterprises' even though governments and the ILO are more interested in the creation of employment whereas the National Bureau of Statistics is interested in production figures.

The entrepreneur herself...is probably most interested in profit, but often faces the same problem as the researcher, how do you calculate profit if you don't know your amortization, the level of your stocks, the taxes to be paid next week and how much you have given to family members last month (Van Dijk, 2005: 187-8).

Testing the efficient predictors of entrepreneurial success, Chattopadhyay and Ghosh (2002) measured success in terms of annual profit and turnover. To determine the success rate of an enterprise, the rate of profit was defined as the proportion of increment in profit divided by the years of the enterprise's existence, and that of turnover as the proportion of increment in turnover divided by the years of the enterprise's existence.

Panda (2002), studying 212 small-sized industrial units in eastern India with the selection based on enterprises having an investment of at most Rs 1 million and also having been in business for at least 10 years,³ defines success in terms of growth in production and sales since profit is to a large extent dependent on the capacity of plant (that is, the size of production) and the total value of sales. On the basis of two indicators, the enterprises were grouped into three broad categories, namely, high,

medium and low levels of success. Panda used three key indicators: growth in sales turnover, growth in profit after tax and return on net worth over a period of five years. The industry average of a particular small-scale sector (for example, small-scale electronics industry average sales and production growth rate) was used as benchmark to define a successful enterprise.

Littunen et al. (1998) researched the success of 138 new Finnish metal products manufacturers established in 1990 in different environments. The criterion of a successful firm was the continuing functioning of the firm. They investigated firms that had closed down and those that had continued to function for the first three years, a period considered critical. About 60% of the firms had fewer than five employees.

There are various definitions of the success of a firm. There is a good argument for approaching the concept of success [from] the point of view of the firm's goals and whether they have been attained. The continued functioning of the firm proves that it has been able to fulfil the expectations of the people involved and can thus, be considered as continued functioning, and hence have been divided into two groups: those who closed down their activities during the first 3 years and those who continued to trade (Littunen et al., 1998: 194).

Some criticisms have been levelled against the use of certain success indicators (measures); some on grounds of lacking 'precise definitions, specified conceptual models or representative samples' which pose problem of reliability and their comparability. Other criticisms concern the factors behind success, with some critics opting more for synergy of several factors, which would offer a better explanation than single factors (Foss and Harmsen, 1996: 136). Moore and Buttner (1997) found that women entrepreneurs in the USA who had held corporate positions had left their organisations for reasons including incompatibility between their own values and aspirations and the measure of success of the large companies and inconsistent distribution of their rewards. Most of the women claimed they had formed their own enterprises because they wanted more flexibility in order to manage both their work and their families. In their own enterprises, they measured success first and foremost in terms of self-fulfillment, with profit and goal achievement being the next. 'Success seems to be measured internally in terms of personal growth, professional development, and improving one's skills, rather than measure externally in profits or business growth. Money, then, is a means and not an end.' (Moore and Buttner, 1997: 166)

Most literature looks at entrepreneurial success from a narrow financial perspective, and according to Cornwall and Naughton (2003) this reduction of success to financial performance is termed the problem of *economism*, which concerns the way people see work and actually work. The term is attributed to Pope John Paul II, who, in his Encyclical, *Laborem Exeercens 1981 #13*, wrote of ‘considering human labour solely according to its economic purpose’ (cited in Cornwall and Naughton, 2003). Entrepreneurial studies focus on the objectives, which are often expressed in financial terms, ignoring the subjective dimension of work and by so doing taking the entrepreneur out of entrepreneurship. While accepting the continuation of discussions over the appropriate financial success measure, they also point out the personal, social and spiritual dimensions of the formation of the individual in the entrepreneurial process in such discussions, despite the fact that many became entrepreneurs for this reason.

In other words, entrepreneurship, when it is unanchored from a morally good end, does not content itself with mere techniques and skill, but rather produces what we call ‘the entrepreneur on steroids.’ The athlete on steroids is driven by the desire to win, which causes him to risk his health. The entrepreneur on our metaphoric steroids is driven by a passion for more stuff, what the Greeks call *pleonexia*, an ‘insatiability for more,’ which risks his moral character (Cornwall and Naughton, 2003: 68).

Cornwall and Naughton caution:

Scholars in the entrepreneurial field need to engage more seriously in a comprehensive notion of success by recognizing the wide variety of goods necessary for a successful organization. If they fail to do this, the discipline of entrepreneurship risks attending, discussing and publishing only the easiest of measures, which we describe as foundational goods. (Cornwall and Naughton, 2003: 72)

To sum up, there is no conclusive result on the most appropriate success criteria. The measures have often been based on financial perspectives using financial ratios (for example, profit level, turnover, production figures, return on net worth). Others recommend employment creation, wealth creation, continuous functioning of the enterprises over a certain time period or using a single or multiple factors. This study has measured success using a synergy of factors arranged in order of importance, but from the personal view of the owner of the business.

1.7.6 Unit of Analysis

Van Dijk (2005) is of the view that the success criterion is related to the unit of analysis, and that is why success is to be measured in relation to the entrepreneur or his/her enterprise. This is also related to who the interviewee should be; the owner, founder or manager of the firm. Bosma et al. (2004: 228) equates the firm owner to the enterprise by using the performance of the firm as a proxy for the firm owner's performance; this is because usually the firm's only capital in the first year of business start-up is the human capital of the founder.

In this study, the unit of analysis is the individual graduate who is the owner and manager of the business. The individual is synonymous with the enterprise because his/her goals are not different from those of the enterprise even where the owner of the enterprise has paid employees, apprentices or interns. Whatever goes on in the business is based on the ingenuity of the owner. Even though the word 'enterprise' is sometimes used, it still refers to the owner of the business.

1.7.7 Processing and Analysis of Data

The data were mainly processed and analysed with the Statistical Package for the Social Sciences (SPSS). Most of the variables are categorical and there are a few continuous ones like the age of the graduates, the age of the enterprises, and the competence scores of the graduates. The descriptive statistics, mostly frequencies, descriptives and cross-tabulations were used in analysing the data. The cross-tabulations were used to examine possible relationships between and among variables. A five per cent significant level was used throughout the analysis. Since there are many tables in the thesis, to facilitate reading, most of those with the same column variables (headings) were placed together in blocks with each block showing either the total or chi square value. In the tables, the figures for the observed differences between groups that are statistically significant are italicised. All tables and figures are derived from the author's fieldwork unless otherwise specified.

1.8 Thesis Organisation

In all, seven chapters make up the thesis. Chapter 1 has discussed the significance of self-employment, why individuals choose it on the basis of their agency rather than being driven into it as a last resort by structural factors in the labour market. Chapter 2 focuses on micro and small enter-

prises in sub-Saharan Africa, especially Ghana, and the challenges they encounter. The chapter, like the rest of the thesis, focuses on endogenous factors because they can provide coping strategies to overcome the exogenous ones, thus making competence learning central. Chapter 3 analyses the pathways through which graduates with different initial human capital endowments exercise their agency. Other related issues are their motives for choosing self-employment or dual employment. Chapter 4 discusses how contemporary competition is quality-related, for which competence is needed. This sets the stage for investigating the relationship between competence and success. Chapter 5 discusses the performance of the enterprises and how it differs among graduates with different initial human capital endowments. Chapter 6 examines the extent to which the graduates make use of opportunity and bonding networks and available communication media. In addition, the relationship between these factors and enterprise performance is also discussed. Chapter 7 concludes the thesis by focusing on the key issues learnt from the empirical finding and how they challenge existing theories and generate new insights, as well as their policy implications.

Notes

¹ Opening statement by Juan Somavia, Director-General of the International Labour Organisation (ILO), at the Second Enterprise Forum held on 5 November 1999 in Geneva (Szabo, 2003: 3).

² In this study, most of the graduates fall within the 15-35 age brackets. This is the definition used in the National Youth Policy of Ghana (Government of Ghana, 1999: 2). Other sources in Ghana use different age brackets; for example, the Youth Employment Network (YEN) Ghana prefers 15-24 years (Yen-Ghana, 2002: 2).

³ In a study by Panda, (2002) success was defined by selecting 20 organizations, made up of two representative enterprises from each type of industry.

2

Enterprise Development in Ghana

2.1 Introduction

The importance of enterprise development has been acknowledged at the international level; in Africa it has featured in the Lagos Plan of Action,¹ at the Tenth African Regional Meeting in Addis Ababa² and in the New Partnership for Africa's Development agreement.³ In Ghana, the growing importance of the private sector as 'the engine of economic growth' and people's inclination to set up their own enterprises as a viable employment alternative have made enterprise development central to employment creation. In the last few decades, especially in the 2000s, the government has given much impetus to enhance SMEs' economic activities in the country. This has been supported by corporate bodies, academic institutions and development partners.

Small enterprise theories differ over whether exogenous or endogenous factors are more important in the growth of SMEs. Basically, two factors influence the decision to start an enterprise: necessity and opportunity or innovation. The latter is the focus of this thesis. This chapter restates the arguments of Chapter 1 that SMEs face many external factors or challenges and that, endogenous factors are utilised to deal with the external challenges. Section 2.2 discusses the development of micro and small enterprise in Africa and the challenges they encounter. Section 2.3 focuses on entrepreneurial attitudes. The various approaches to addressing the challenges faced by SMEs in Ghana are discussed in Section 2.4.

2.2 Micro and Small Enterprises in sub-Saharan Africa

Micro, Small and Medium Enterprises play a significant role worldwide, comprising over 95% of all enterprises. SMEs create dynamic, market-oriented economic growth, employ the growing work force in developing countries, alleviate poverty and promote democratisation (UNDP, 1999).

UNDP (1999) distinguishes between entrepreneurship development and SME development, with the former conveying an individual wishing to begin or expand a business and the latter meaning enterprise development. It defines entrepreneurship development as the process whereby entrepreneurial skills and knowledge are enhanced through institution-building and structured training programmes. Entrepreneurship development aims at enlarging the entrepreneur base, hastening the pace of creating new ventures and thereby accelerating both employment generation and economic development. The UNDP also distinguishes between SMEs and micro enterprises in terms of the number of employees and extent of formalisation.⁴

In Ghana, small firms outnumber large ones; micro enterprises (that is enterprises employing fewer than five people) constitute 70% of enterprises, and activities of the majority of micro or small enterprises are either informal or semi-informal. An estimated 40% of Ghana's gross national income is ascribed to informal sector activities (Government of Ghana, 2003: 22).⁵

Criteria other than number of paid employees are occasionally applied to classify firms: access to resources, registration status, which determines whether an enterprise is in the formal, semi-formal or informal sector, and amount of fixed assets. Even when the number of paid employees is used as the criterion, the cut-off point differs from nation to nation and institution to institution. Government of Ghana (2003) defines micro enterprises as those employing up to four people. In this study, however, a further distinction is made between enterprises with paid employees and those with none, in order to identify enterprises that have created some employment.

MSE activities often tend to be urban-based and in the non-agricultural sector. Of the total population of less than 20m, over 40% live in the urban centres of Accra, Kumasi, Sekondi-Takoradi and Tamale. These are the centres for most of the non-household, non-agricultural private sector activity. About half of the households in Ghana are non-farm productive enterprises (Government of Ghana, 2003).

2.2.1 Enterprise Challenges: A Review Based on Fieldwork⁶

Knowledge of the factors constraining micro and small enterprise operations is essential for effective policy formulation, programme design and implementation. Pekka Aro, Director of the ILO InFocus Programme on

Skills, Knowledge and Employability, observes in a foreword to Kenyon and White (n.d: iv):

The young – even more so than adults – face significant barriers in starting a business and best practice shows that their success depends to a large degree on the extent to which a range of integrated services are available to assist business start-ups such as basic entrepreneurship skills training, access to credit and workplace facilities, mentoring, and post-business start-up counseling.

Absence or inadequacy of some vital external and structural factors inhibits enterprise performance. Enterprise challenges or growth constraints facing small enterprises – for example, availability of foreign exchange for spare parts or raw materials, lack of consumer demand growth, and availability of credit to assist growth – vary between sectors (UNIDO, 2002: 11).

The graduates were asked to pinpoint the most important challenge that their enterprises had encountered and which they believed to have ‘inhibited’ their performance. Three could not identify any and four listed challenges relating to issues requiring their own competencies to meet them. Thus, in all 114 of the 121 graduates listed challenges external to the enterprises. As shown in Table 2.1, finance-related problems, especially loans, constitute about a third (30.7%) of all the challenges and they cut across all sectors. This may be related to the small-firm problem of limited capital.⁷ It is a challenge to half of the tailoring & dressmaking enterprises and a third of the electrical rewinding and carpentry & joinery enterprises. Those are probably affected more because most of their owners are not in dual employment and the enterprises are the only source of income. The enterprises need the loans for business expansion, especially for renting workshops. One ICT graduate explained: ‘We need financial and technical support – for purchase of equipment and [to] increase our capital for large-scale production’. A graduate in a tailoring & dressmaking enterprise noted: ‘Finance is a major problem; without it, instead of taking a year to take off properly it may take you about four years to do so. Since it is a production line, all the machines and tools you need to do the work must be available.’ The observed differences between sectors are statistically significant (0.000) at 5% significant level. The significance of finance is also observed by Biggs and Raturi (1997: 29-30) who investigated the effect of finance on productivity and found that access to working capital increased value added by 40%.⁸ The perception is that performance and growth of firms are determined by financial constraints.

Table 2.1
Enterprise challenges by sector

Business challenges	Sector					
	ICT	ER	GE	T&D	C&J	Total
Loans – with low interest	5 (25.0)	5 (33.3)	3 (11.5)	13 (50.0)	9 (33.3)	35 (30.7)
High cost of materials	-	5 (33.3)	2 (7.7)	4 (15.4)	8 (29.6)	19 (16.7)
Use of local software, products	1 (5.0)	1 (6.7)	4 (15.4)	-	2 (7.4)	8 (7.0)
High taxes: e.g. artisan licence	1 (5.0)	1 (6.7)	3 (11.5)	2 (7.7)	-	7 (6.1)
Environment: security; banks	3 (15.0)	-	1 (3.8)	1 (3.8)	1 (3.7)	6 (5.3)
Quality standards: imitation	-	-	5 (19.2)	-	1 (3.7)	6 (5.3)
Availability: materials, mach	-	-	1 (3.8)	-	4 (14.8)	5 (4.4)
Hardships: low demand	2 (10.0)	-	2 (7.7)	1 (3.8)	-	5 (4.4)
Workshop: e.g. high rent	-	3 (20.0)	1 (3.8)	1 (3.8)	-	5 (4.4)
Provision for hire purchase	-	-	1 (3.8)	1 (3.8)	2 (7.4)	4 (3.5)
Reliability: e.g. electricity	2 (10.0)	-	1 (3.8)	-	-	3 (2.6)
Public employees: embrace IT	3 (15.0)	-	-	-	-	3 (2.6)
Limited capital	1 (5.0)	-	2 (7.7)	-	-	3 (2.6)
Competition: used clothing	-	-	-	3 (11.5)	-	3 (2.6)
Communication cost – Internet	2 (10.0)	-	-	-	-	2 (1.8)
Total	20 (17.2)	15 (13.2)	26 (22.8)	26 (22.8)	27 (23.7)	114 (100.0)

Figures in parenthesis are in percentage

Unavailability and high cost of machinery, equipment, materials and accessories are other issues critical to all sectors, except in ICT. Prices of materials such as trimmings, electrical accessories, tools and ironmongery, which are all imported into the country, are high. Wood from domestic sources is also expensive, creating a major challenge to those in carpentry & joinery. Most of the wood processed by sawmills is for export and therefore quite costly for local enterprises. The government has banned ‘bush cut’, which appears to be the major source of supply to SME enterprises. Woodworking machinery and equipment owned by a few graduates in the carpentry & joinery sector had been acquired second-hand, a common practice among Ghanaian small enterprises. ‘While countries discriminate against used machines through trade restriction, there are strong arguments in its favour, particularly in low-income countries where low wages and technological learning imperatives make them attractive’ (Oyelaran-Oyeyinka, 2003: 9). The machines are antiquated and occupy a considerable amount of space. Most graduates also do not have portable machines (see Box 2.1). Tools for good finishing and precision work are not available; therefore, much useful wood that could be used for kitchen tools, toys and so on is thrown away as offcuts. Even the experts interviewed reported problems in obtaining machines and equipment. Some depend on friends outside the country for second-hand ones, to be paid for by instalment or by giving that person a share in the enterprise. This finding supports that of Hsu et al. (1990: 6):

There is a significant dearth of testing equipment for electric motors in Ghana. Without such equipment, it is difficult to determine the present efficiency of the motors in use and how well motors are being rewound. In order to perform adequate motor testing, a minimal set of facilities, equipment and trained personnel are required.

For those in tailoring & dressmaking, electric sewing machines are the most common in use. Ownership of an industrial machine or an over-lock or knitting machine gives status. The graduates said that having their own machines saved a lot of time and ensured maintenance of quality standards. Nine of the entrepreneurs (30%) had industrial machines, while 26 (86.7%) had over-lock and knitting machines. Some do knitting or over-locking commercially for tailors and dressmakers who do not have their own machines. Graduates in carpentry & joinery who made use of machine shops had the same view about the benefits of having own machines (see Box 5.4 in Chapter 5).

Box 2.1

How some enterprises raised capital

The case studies show that the graduates take time to build up their physical capital – machines and accessories or tools. Although the study did not specifically ask whether they had applied for a loan before, none mentioned ever obtaining a loan. This may explain why most start as own-account workers, without apprentices, and also work from home in the early years of the enterprise. Most of the non-university graduates received various kinds of help – financial or machines – from parents and extended family members. Two entrepreneurs used a machine given by the mother, another had received several sewing machines from mother, spouse and uncle; one had a machine given by an aunt and another had received financial support from the mother to buy tools. A TAT graduate had been trading previously and had bought her machine with her own funds. In contrast, almost all the KNUST graduates had started their businesses with their own resources. In one case, a mother had given her son a computer to start up business while he was a sophomore. This difference between non-university graduates and KNUST graduates may explain why most of the latter had to engage in wage employment or dual employment before becoming self-employed.

About a fifth of those in the general electrical sector, whose work includes installations in homes and factories, said the Ghanaian market is

being flooded with inferior electrical accessories, tools, machines and so on. It is common for sellers of electrical accessories to ask, 'Are you buying British or Chinese made?' The belief is that British products are of higher quality than Chinese ones, which are suspected to be often counterfeit or inferior. Therefore, British products are more expensive.

Box 2.2

K. Asmah's reaction

'We compete with a lot of foreign companies and these companies are rich, big and old with experienced people. They are the Original Equipment Manufacturers ((OEM) based in Europe who manufacture the systems. When they bring equipment to Ghana and the customer in Ghana buys it and it develops a fault, the customer has a choice either to bring the original manufacturer in or to use us to do the repairs. There is no difference between the local repairers and the foreign ones. The only difference, if any, is that they are bringing their knowledge from abroad. Bringing someone from outside may attract about thrice the cost of what we collect considering the airfare, hotel etc and the fact that we are all buying our input for the repairs from the same market. But the perception of the Ghanaian is that Ghanaians are not good engineers. It is even so in the government quarters because those whose role is to promote our businesses don't know the kind of technology we are using. They feel comfortable sitting in their offices and taking decisions 'I have seen a Chinese doing it so let him do it'. The guy does not have any clue to the technology and so he will not risk. Instead of learning to get to know what we do and give us some opportunity, he will not but gives it to the foreign company. The foreign consultant comes to Ghana and do a shoddy work and they accept it.

'We most of the time get some contract through customer recommendations as a result of our quality. We get contract from both public and private organisations but with the public organisations, the cooperation of the people involved – the project manager or project sponsor – is not forthcoming. They are not committed to the job, don't know the details of the job, are not available on site, and delay in making payment on time. Everything is wrong with public institutions. In most of our projects, we have to pre-finance ourselves – whether private or public. This means sometimes you are compelled to delay someone's job. Even with the private institutions, it becomes a problem when it comes to payment. People sometimes make mistakes during the contract awarding process and they have to go and explain to their bosses, a thing they feel reluctant doing because of fear of exposing their ignorance.'

Some of the challenges facing enterprises have to do with consumer preference for foreign products and services; an example of this is public institutions that do not make use of local software developers. The graduates interviewed made comments such as: ‘There is competition with imported second-hand items for which the people have developed a strong taste’ and ‘Government should minimise the importation of clothing from Dubai, Thailand, etc., and boost up local textile industries because our materials are good – [they] last in colour as compared with the imported ones.’

A few university graduates, especially those in ICT, complained about the high cost of Internet and other modern communications and electricity problems. One of the ICT graduates was interviewed at an Internet café where he often did his work because of the high cost of having his own connection. An entrepreneur in the general electrical sector complained of problems accessing the Internet and making phone calls after relocating the enterprise from Accra to Achimota. The telephone lines had not been connected to the new business location even though it was an already developed area, and he had to wait for months for the services to be extended to the area. The remarks in Box 2.2 by K. Asmah, one of the KNUST graduates, are revealing.

There were also a few complaints about taxation, which was mainly on imports, and the cost of the artisan licence (see Box 2.3).

Several writers have shed light on the hindrances to micro and small enterprise (MSE) operations in Third World countries, including sub-Saharan Africa. African micro enterprises have been found failing to grow or ‘graduate’ into small enterprises, and from small enterprises (for example those with fewer than 10 workers) into medium ones (UNIDO, 2002). In developing countries some of these challenges relate to access to finance, resources and public sector procurement programmes, markets and the dynamic nature of the business environment in which they operate (UNDP, 1999).

Egziabher and Demeke’s (2005) study of 332 micro enterprises in Ethiopia highlights the challenges, such as low productivity and stagnation; lack of urban and rural sector linkages, lack of purchasing power of the local people, which limits their demand for goods and services; and an uncondusive business environment, for example with regard to infrastructure and financial services. The study sums up these challenges as the inadequacy of the network approach in explaining the nature of enterprises in small communities. In another study, Kinyanjui and McCormick

Box 2.3
Payment for artisan licence

The real purpose of the artisan licence is not clear. According to the contributors, it is a charge imposed on them on the basis of the number of the apprentices they train. They find it unfair since some of the apprentices do not even pay for their training. Besides, the masters and mistresses feel they are rendering a worthwhile service to these apprentices. However, an Assembly official had a different explanation; she said the licence fee was a contribution towards the development of the community.

The following are some examples of the licence fee: Sey pays the Internal Revenue Service (IRS) a *stamp fee* of GNC 10 every quarter and the Tema Metropolitan Assembly (TMA) an *artisan license* fee of GNC 40 annually (as a member of the Ghana National Tailors & Dressmakers Association, he receives a discount). Martha's enterprise is registered with the Registrar General and she pays income and company taxes to the IRS. In addition she pays an *artisan license* fee of GNC 35 annually to the TMA. She is a member of the Association of Ghana Industries, Tema Textiles and Garment Cluster, and Federation of Associations of Ghanaian Exporters. Becky is a member of the Ghana National Tailors and Dressmakers Association (GNTDA) and has registered her business. Every quarter, she pays a *stamp fee* of GNC 10 to the IRS as well as tax on every contract she gets from companies. In addition, she pays the *artisan license* fee; in 2006, she paid GNC 18 on her 10 apprentices.

(2005) found a poor relationship between the local authority and small-scale garment producers and retailers in Nairobi, Kenya, with those in the sector often being harassed.⁹ The sector gets inadequate support despite its contribution to the local economy and its growth in numbers.¹⁰ In Zimbabwe, support for MSEs has been merely verbal and has had limited impact. Another problem is administrative bottlenecks (Van Dijk, 2005). In Tanzania, many entrepreneurs find regulations and the governmental bureaucratic maze inhibiting. To new entrepreneurs, the laws and regulations, together with lack of transparency, can be problematic. Rent seeking often becomes the expectation of the Tanzania system (Kristiansen, 2001). The writer recommends minimising restrictions through liberalisation as a way to unleash the dynamism of small enterprises. Mead and Liedholm (1998) acknowledge the effect of government controls discriminating against MSEs when compared with large enterprises, especially in relation to input prices and access to inputs. Elhiraika and Nkurunziza (2006) ascribe the inability of African SMEs to grow to lack of a

supporting environment. They cite an example of firms needing to have a relatively large amount of capital to invest in transportation, security, access roads and power generation as a result of inefficient infrastructure. Helmsing (2005: 18) found African SMEs mainly serving the local market and encountering fierce competition. In addition, as a lot of people became self-employed, many SMEs were merely a means of survival; instead of generating economic growth, they shared poverty. Berhanu (2005), in a study of MSEs in Awassa, the capital of the Southern Region of Ethiopia, identifies the most serious enterprise problems as (in order of importance) lack of capital, absence of government support, lack of credit facilities and prevalence of poor technology. Other problems are scarcity of land, high rents and lack of training. Liedholm and Mead refer to the policy environment going against small producers in the Third World, with large, established manufacturers often being the beneficiaries. 'These benefits are usually designed and implemented in such a way that they are not available to small producers, which thereby find themselves at a competitive disadvantage compared to their competitors' (Liedholm and Mead, 1987: 91).

Oyelaran-Oyeyinka and Lal's (2006) study on SME learning modes in India, Nigeria and Uganda establishes that SMEs in India use Internet searches as the second-best mode of learning after learning-by-doing whereas the two sub-Saharan African countries prefer in-house training as their second-best mode of learning. Also, whereas Indian firms conduct business via 'web-enabled and portal-based technologies' no firm in the two African countries does so. They ascribe these differences to availability of reliable communication networks, effective accessibility to Internet connectivity and availability of requisite technological infrastructure in India but absent in Nigeria and Uganda. For policy purposes, they recommend institutional support for SMEs to enable them survive in the era of globalisation.¹¹ Micro and small enterprises in Ghana are not immune to these problems:

Firms in Ghana are constrained in their ability to participate in markets because of weak competence and capacity. Key issues include low skill levels; poor production methods; lack of marketing know-how; and lack of access to capital (Government of Ghana, 2003: 7).

Korboe (2007: 28), seeking better understanding of 'pathways from skill to work among the poor', found limited accessibility to start-up capital to be 'the most consistent barrier in the transition from training to work (typically self-employed).' Indicating a way to overcome this, he

cites an NGO which integrates start-up support by providing equipment credits, resulting in 88% of the beneficiary graduates being able to continue in business.

Credit is found to be the major constraint on new investment. Others are inadequate finance, especially for starting a business or expanding it; inability to use capacity due to restricted access to raw materials and inadequate working capital; demand-related problems like weak demand or too much competition, especially for sectors with ease of entry. Another problem is the indebtedness of customers (Steel and Webster, 1991). Steel and Webster find location the dominant concern of micro and small enterprises, some of which face eviction or demolition of their premises by the Accra Metropolitan Authority and other urban councils for locating their enterprises in thoroughfares. A case in point occurred in Accra, where a cluster of micro enterprises was bulldozed (Barnett, 1995: 19-20). Van Dijk (1997) identifies some of the factors constraining small enterprise growth in Ghana as low productivity, lack of connections or networks, ethnic factors, limited access to capital, barriers to entry, cost of formalisation, competition, increased costs and seasonality. A World Bank study of household economic activities in Abeka, Accra, identified four levels of constraints: macroeconomic constraints – relating to negative policy context and taxes and regulations and their negative impact; entrepreneurial constraints – limited education, training and business skills; enterprise-related constraints – small initial investment, technology type, enterprise location, etc; and market constraints related to demand for products and services (Van Dijk, 2002).

SMEs' ignorance of intervention activities is also an issue. An Accra City survey on informal sector entrepreneurs' perception of the regulatory and institution framework concluded:

...although there are several institutions and programmes which have some bearing on informal sector enterprises, these enterprises are unaware of the existence of the institutions and programmes. There are too many institutions that these enterprises have to deal and which give conflicting signals to the participants of the sector; the cost of bureaucracy was found to be too expensive for the enterprises. The educational background of the entrepreneurs is such that they cannot meet the requirements of detailed information required by these institutions (Baah-Nuakoh, 2003: 126).

About 67.4% of entrepreneurs did not know of any government programmes and projects that could be useful to their business, especially in trade and restaurants (82.6%), wood processing (78.6%) and handicrafts

(77.4%). Only 20.6% of the entrepreneurs had taken advantage of government programmes such as (in order of importance) supply of goods, advice, training and credit (Baah-Nuakoh, 2003).

Box 2.4
Factors constraining private sector development

Firm-Level Constraints

- Market
- Informal nature of business
- Lack of trust
- Managerial skill and training in general
- Lack of finance and limited access to it
- Investments in production – agricultural and industrial research and extension
- Low labour productivity
- Lack of raw materials

National-Level Constraints

- Tax, levies, fees (tax administration)
- Registration of new businesses and approval
- Banking regulations, interest and access to credit
- Custom administration, clearance of goods
- Land acquisition, land title and land use
- Exchange rate or foreign exchange regulations
- Infrastructure
- Utilities – electricity supply, transport, high energy cost
- Business practice
- Unpredictability and uncertainty of laws and policies
- Complexity and non-transparency of regulations
- Labour laws
- Lack of coordination
- Market niche

International-Level Constraints

- Terms of trade conditions
- Lack of export promotion
- Limited identification of key market

Source: Government of Ghana (2003: 24-6)

On the basis of discussions with governments, donors and private sector organisations, the Ghana government has identified a number of firm-level, national and international factors constraining private sector development. They are presented in Box 2.4.

In conclusion, micro and small enterprises face many and somewhat similar challenges. They include problems with registration and administration bottlenecks, high taxes, low demand, limited access to and inefficient infrastructure (where it exists), lack of credit facilities, rent seeking, access to start-up capital, scarcity of land, and problems of location. In addition to these are problems related to competence of the owners of enterprises, such as low education level, limited training and business skills, and ignorance of existing provisions that are for their benefit.

2.3 Entrepreneurial Attitudes

Gibbs (1999: 28) defines an entrepreneurial or enterprise culture as ‘sets of values, beliefs and attitudes commonly shared in a society which underpin the notion of an entrepreneurial “way of life” as being desirable and in turn support the pursuit of “effective” entrepreneurial behaviour by individuals or groups’. Penrose (1980) finds that, to a large extent, a small and new firm’s survival and growth is dependent on superior entrepreneurial ability. Ball links enterprise culture to an OECD description of an enterprising individual and indicates that an enterprise culture will be prevalent in a society where qualities found in an enterprising individual are in abundance.

An enterprising individual has a positive, flexible and adaptable disposition towards change, seeing it as normal, and as an opportunity rather than a problem. To see change in this way, an enterprising individual has the capacity to initiate creative ideas, develop them, and see them through into action in a determined manner. An enterprising individual is able, even anxious, to take responsibility and is an effective communicator, negotiator, influencer, planner, and organiser. An enterprising individual is active, confident, and purposeful, not passive, uncertain and dependent (Ball, 1991: 65).

Table 2.2 displays the respondents’ perceptions concerning entrepreneurial attitudes that have kept their enterprises going. Concern for quality and customer relations and care top the list. However, even though the issue of entrepreneurial attitudes is an endogenous factor, it has been held constant in this research. As Oyelaran-Oyeyinka (2006: 74-5) observes with reference to African SMEs: ‘While firm owners may in fact possess intrinsic entrepreneurial abilities, this attribute does not prove sufficient in the face of the complex demands of modern economies. As firms face

both domestic and external competition, the need for new sets of technical and managerial competencies arises.’

Table 2.2
Entrepreneurial qualities that keep the business going

Entrepreneurial Qualities	Frequency
Concern for quality work e.g. good finishing	31 (25.6%)
Good interpersonal relationship (with customers)	28 (23.1%)
Ensure customer satisfaction or care	23 (19.0%)
Optimistic, hard work, result-oriented, commitment, interest	10 (8.3%)
Knowledgeable in the trade/confidence to do the job	8 (6.6%)
Time management e.g. timely delivery; acting promptly	8 (6.6%)
Innovation and creativity	8 (6.6%)
Ability to take risk e.g. buying materials in advance or bulk	5 (4.1%)
Total	121(100.0%)

2.4 Approaches to Addressing MSE Challenges in Ghana

In the light of the challenges encountered by the MSEs in Ghana, the government and non-state actors have adopted various approaches towards private sector development. The government has demonstrated its commitment in policy statements, programme implementation and action plans. To quote President Kufour:

...from time immemorial it is the private sector that has been the most productive part of the economy. In recent years, the private sector has not been energised and enabled to do what it does best....this government is determined to energise the private sector and to make it truly the engine of growth. The new Ministry of Private Sector Development is designed to be the champion and advocate for businessthis should improve business confidence and serve to introduce and convert much of the informal sector which is often the part of the economy that booms against all odds, into the formal sector. In short, government is using the ministry to ensure there is an advocate for the entrepreneur at the heart of government and to promote private sector business activity for the good of the economy at large....(*Daily Graphic*, 2002a: 22).

Since the 1980s, and especially in the 2000s, the government has initiated several programmes for business start-ups. The initiatives include registration of the unemployed and the Skills Training and Employment Placement Programme for young people (*Daily Graphic*, 2002b); introduction of the National Youth Fund;¹² establishment of the Micro-Finance and Small Loans Center in 2004 as the apex body overseeing the administration, coordination and monitoring of small loans and micro finance schemes intended for small-scale entrepreneurs (Government of Ghana, 2005); and establishment of the Venture Capital Trust Fund in December 2004 to improve access to long-term capital by SMEs in priority sectors,¹³ for example, agriculture, pharmaceuticals, tourism and ICT (Ghana Business Index, 2008; VCTF, n.d.). The government also launched the Youth Employment Programme in 2006 with the broad objective of empowering young Ghanaians to contribute more productively to the socio-economic and sustainable development of the country. The first phase of the programme focuses on short-term activities to create employment opportunities for young people, while the second phase is a longer-term focus on employment issues as part of the Growth and Poverty Reduction Strategy.

Several junior high school educational reforms have introduced courses aimed at, among other things, equipping students with occupational skills, improving education quality, and reviewing the curriculum to make it more practical and responsive to the manpower needs of the country. At the tertiary education level, entrepreneurship has been introduced as a mandatory course in Ghanaian polytechnics to provide the understanding, knowledge and skills needed for setting up an enterprise.

Non-state actors, such as educational institutions, corporate bodies and development partners, have also been promoting enterprise development programmes. Among the institutions giving training in entrepreneurship are Ghana Institute of Management and Public Administration and University of Ghana. At the latter, the Entrepreneurship Development course has been compulsory for all bachelor's degree students since the 2004 academic year (*Daily Graphic*, 2004).

In 2001, Students in Free Enterprise programme was introduced as an extra-curricular activity. It teaches the principles and values of free market economies, and organises, motivates and trains tertiary students to form teams to design, develop and implement community-based micro-businesses.

As part of their corporate social responsibility activities, some corporate organisations have mounted programmes to encourage talented youth to realising their career dreams by promoting entrepreneurship and creating self-employment. Some of the programmes are based on competition. Examples of the programmes are Nescafé African Revelation, TV3 Mentor and the Battle, Believe Begin Become Business Plan Competition, and GTP Wax Competition. Nescafé African Revelation is a contest organised annually by Nescafé to reward young and fresh African musical talent as a way of promoting self-employment in the West and Central Africa sub-region. In Ghana, it was first held in 2004 (Ghanaweb, 2004; Nestlé Ghana Ltd., 2006). The Mentor and the Battle is the final phase of a series of programmes seeking out musically talented young Ghanaians; it helps the winners to develop their talent through learning activities and entertainments to become professionals or music stars. Believe Begin Become Business Plan Competition was developed by TechnoServe Ghana for the promotion of entrepreneurship and private sector development by supporting new businesses to become self-sustaining and capable of creating jobs, revenue and wealth. The programme provides access to training and resources for either launching or expanding a business (TechnoServe, 2006; UNIDO, 2007).

Other programmes are the Busy Incubator Programme of Busy Internet Ghana Ltd., and the Graduate Enterprise Programme of EMPRETEC Ghana Foundation. The Busy Incubator Programme, said to be the first of its kind in West Africa, was launched in 2005 with the support of the World Bank's Information for Development Programme. It is part of the African Incubator Network and helps to increase the chances of survival of young entrepreneurs (InfoDev, June 2007).

The EMPRETEC Ghana Foundation ran an entrepreneurship development programme called Graduate Enterprise Programme in collaboration with the African Project Development Programme with the objective of providing opportunities for entrepreneurship and self-employment among polytechnic and university graduates who have completed their national service. It also enables the graduates to apply the skills and knowledge gained immediately after the training programme into setting up and/or running their enterprises.

Another collaborative programme provides training for already existing small and medium-sized enterprises that are doing well and growing in size. It helps them manage the growth process. The Ghana Regional Appropriate Technological Industrial Services also has an apprenticeship

training programme. Intervention by development partners includes the World Bank-financed Vocational Skills and Informal Sector Support Project.

Despite these efforts by state and the non-state actors, more still needs to be done, as President Kufour has observed:

While the Government's efforts have largely been acknowledged as being a step in the right direction, the problem is still persisting and therefore there is the need for a well-coordinated and integrated national programme which will address the youth unemployment problem in a concerted and much more focused manner (Government of Ghana, 2006: 2).

Aryeetey (2001) notes that the Government is under pressure to support enterprise development more aggressively by removing constraints through interventions such as putting in place the right public agencies, facilitating policy development, coordinating the business environment, allocating credit, giving tax relief and developing entrepreneurship programmes.

In sum, the enterprise development issues in Ghana may be classified into endogenous and exogenous factors as follows:

Endogenous Challenges

- Weak competence or low skill levels (lack of marketing, managerial and technical skills and ignorance of interventions)
- Poor production methods
- Low productivity level

Exogenous Challenges

- Competition
- Weak demand
- Ease of entry
- Finance (inadequate start-up and working capital; capital for business expansion; and access to credit).
- Regulations (cost of licensing, time, money and tax)
- Physical infrastructure
- Vital information
- Counselling and advisory services

Exogenous challenges are contextual factors which relate to the business environment, for example, government policies, over which the enterprises do not have much control. Endogenous factors relate to the competencies and efficiencies of the enterprises, some of which might

have been acquired during formation of initial human capital or enterprise learning. A competent MSE will, for example, know the appropriate production methods to employ and will also aim at improving productivity levels. It will also search in and around its environment for issues pertaining to the business and do something about them. In collaboration with others, they can also influence government policies and lobby to their advantage.

In this study the focus is on endogenous factors. The paper posits that although exogenous factors are equally important and need to be addressed, endogenous factors are even more crucial, especially in the face of local and global competition. Emphasis is given to the competencies acquired during entrepreneurship formation and the enterprise's life (at most up to the time of the field interview). Enterprise development follows a set of objectives and involves different stages; some writers often zero in on the start-up stage, which they find to be most critical. Ball (1991: 34) describes the activities involved in each of the stages:

1. *Awareness*. This is the first stage. It involves becoming aware of what enterprise actually means and involves, perhaps just in a very general way, up to the point, perhaps, of forming a specific enterprise idea, or a general intention to pursue the interest further.
2. *Pre-start-up*. The idea or intention is taken further by gaining needed skills and knowledge, researching ideas and taking them forward to the point of readiness, usually in the form of a business plan.
3. *Start-up*. The gap between idea and reality is bridged, and doing so will likely require intensive commitment and extensive action,
4. *(Immediate) post-start-up*. This is a critical stage, for many new businesses fail at an early point. Support services aim to enable businesses to spot as well as deal with emerging problems.

Only administrative barriers were considered a major hurdle to starting a business in Ghana in 2004. Starting a business involved 10 procedures and lasted for 84 days, and enforcing a contract involved 21 procedures and lasted for 90 days (World Bank, 2004: 147)¹⁴ Despite considerable improvement in 2008¹⁵ starting a business now requires 11 procedures (World Bank, 2008). Khera places a high premium on the importance of creating an enabling environment – ‘transformative context’ – which is necessary for enterprises to thrive:

In a positive environment, [even] a marginal performer's output goes up. In a negative environment, a good performer's output goes down...It is tough to expect positive behaviour in a negative environment. Where lawlessness becomes the law, honest citizens become cheats, crooks and thieves (Khera, 1998: 8-9).

Thus, it is necessary to create a positive environment for enterprise, but that should not be at the expense of internal enterprise factors.

Notes

¹ Each member state is to take measures that will enable small and medium industries and the informal sector to operate effectively.

² The participants from the 13 countries accepted the need to establish policies and a regulatory and legislative environment that would stimulate enterprise growth and development, thus encouraging enterprise to start up, grow and create jobs (ILO, 2003b: 11).

³ In NEPAD, the leaders of the various countries recommitted themselves to promoting the private sector in their respective countries and at the international level.

⁴ According to UNDP (1999) micro enterprises mostly employ up to five people and their access to resources is severely constrained; in addition, they characteristically form part of the informal sector. SMEs, on the other hand, employ between five and 200 people and are part of the formal sector in the sense that they are registered as business organisations. The distinction and classification criteria differ between countries. In Ghana, the private sector is made up of households and firms classified by the number of people employed – large firms, micro and small-scale enterprises. For example, Page and Steel (1984: 42) categorise enterprises with 50 or more employees as large scale, those with 30 to 49 employees as medium scale and those with 10 to 29 employees as small scale. All enterprises with fewer than 10 employees are classified as informal. Of that group, those with six to nine employees are small scale and those with one to five or with no employee are either residual/casual (with no fixed investment or full-time employee) or home production (non-agricultural production carried out in the home and not sold or traded). Mensah (2004) classifies SMEs in Ghana into three categories: micro enterprises, with up to five employees and fixed assets (excluding realty) of up to US\$ 10,000; small enterprises, with six to 29 employees and fixed assets of US\$ 100,000; and medium enterprises, with 30 to 99 employees and fixed assets of up to US \$1million. Steel and Webster (1991), in their study on Ghana, classify enterprises by number of full-time employees. They define micro enter-

prises as having zero to three workers, very small enterprises as having four to nine workers, small enterprises as having 10 to 29 workers and medium/large enterprises as having more than 30 employees. Biggs and Raturi (1997: 10), in their study on technological capabilities and learning in Ghana, Kenya and Zimbabwe use the World Bank (Regional Program for Enterprise Development) definition of enterprises: small firms employ up to 10 workers, medium firms from 11-49 workers, and large firms more than 50 workers.

⁵ Reliable data on MSE and informal sector does not exist. However, there are 480,859 registered businesses.

⁶ Firm surveys may involve response bias because small firms are less likely than large ones to respond to surveys. Besides, 'owner-managers' or entrepreneurs tend to identify exogenous factors inhibiting their enterprises rather than the endogenous ones arising from their own doings (OECD, 2003: 198).

⁷ According to Penrose (1980), although new, small and unknown firms are generally not able to obtain start-up capital, many of them do manage to do so and achieve success, becoming large firms largely due to their 'special entrepreneurial ability'. She maintains that there is a relationship between entrepreneurial ability and attraction of finance and therefore lack of appropriate entrepreneurial services is related to difficulties associated with lack of capital 'in the sense that a different entrepreneur in the same circumstances might well achieve different results.' (Penrose, 1980: 39)

⁸ The firms' access to longer-term bank loans was also used as an indicator of access to finance. However, it consistently yielded small, negative and insignificant coefficients. This would suggest that bank loans are used by firms mostly for fixed-asset acquisition and do not directly affect the ability of the firms to utilise those assets.

⁹ They define small firms as having 4 to 10 workers and micro firms as having one to three workers.

¹⁰ From 1989 to 2000, the number of small-scale garment retailers and producers rose from 2,421 to 6,000.

¹¹ The Indian government has encouraged the private sector to participate in providing technological infrastructure in industrial clusters.

¹² The fund provides capital for skilled youth and other individuals to set up private enterprises (GNA, 2004)

¹³ Under the Venture Capital Trust Fund Act of 2004 (Act 680) an SME is any enterprise employing at least 100 people and with a total asset base excluding land and buildings not exceeding the cedi equivalent of US\$ 1 m.

¹⁴ In Europe, in contrast, it takes an average of 12 workings days to set up an individual enterprise and 24 workings days to set up a private limited liability company.

¹⁵ Ghana is adjudged by the World Bank to be one of the top 10 reformers in the world for impact of its reforms in five major areas: starting a business, property registration, getting credit; trading across borders; and enforcing contracts (World Bank, 2008). It has continued to increase public service efficiency; reduced bottlenecks in the registration of property by cutting delays from six months to one; decreasing business start-up time to 42 days; changing port authority operations to speed up import processing; and reducing time taken to enforce contracts through new civil procedure rules as well as mandatory arbitration and mediation.

3

Pathways to Enterprise Formation and Development

3.1 Introduction

The journey from school to employment is a complex and multifaceted one involving various trajectories; it defies being described as ‘a single pathway’. It may be a transition from formal or informal education to wage employment (in small, medium or large public or private enterprises) and then formation of own enterprise; or the journey to formation of own enterprise may be through dual employment. There can be obstacles or setbacks along the path, such as dropping out of school, or interventions such as acquiring training or furthering education after some years of employment. In the opening statement of Chapter 1, Juan Somavia, Director-General of the ILO, is quoted as observing that the ‘traditional career paths’ (normally from school to wage employment) are disappearing. This is happening in Ghana and making self-employment a necessity in many cases.

The use of the metaphor *pathways* as an important organising concept can be linked to policy and research, but it must be used with precision to convey only its intended meanings (Raffe, 2003).¹ In this study, a pathway is defined as the various stages that a graduate goes through, beginning with acquisition of initial human capital endowment (education or training) through enterprise formation to enterprise development, where the graduate becomes a fully-fledged self-employed entrepreneur. Pathways are an important issue in designing sound policies, strategies and programmes because of the recognition given to the different resources and capabilities that young people bring to business, as well as the different stakeholders and agencies that influence business success. Such programme design needs to recognise the different entry points or the pathways into enterprise. The most common reason for going into self-employment is its independence, but many people also do so because of

unemployment or inability to complete school. Some enter a sector through family business, running the enterprises as they grow older. Some also enter self-employment after being in wage employment to accumulate money for their own business and acquire skills. In some cases, self-employment is presented to students as a possible career opportunity after leaving school (Kenyon and White, n.d).

In Ghana, entrepreneurs have to overcome barriers like having insufficient start-up capital and establishing social and business contacts, dealing with changing information and conforming to regulations as well as dealing with other formal institutions such as banks. Thus, starting an enterprise in the formal sector is difficult for those with basic education.

....a major pathway to becoming an enterprise owner is through higher education, and not generally through traditional apprenticeship or informal wage work, where barriers make it difficult for these people to become owners or graduate from apprentice to master (Palmer, 2005).

Palmer (2005: 89) finds starting an enterprise feasible for those with post-basic education and training. Haan (2003: 111-12), on the basis of a study of traditional apprenticeship in Ghana and some other West African countries, states: 'It would appear that only a few apprentices appear to start their own business immediately upon completing their TAT period. A typical career path passes through a number of years of wage employment – in a workshop in either the formal or the informal sector.' According to Frazer (2006), the small marginal return for his labour will enable an apprentice work only with the master (since it is better than working in another workshop) or at best set up his own business where he can get more returns.

Bonsu (1992: 142) cites cases where some graduates who experienced wage employment had to hop from one job to another before finally settling into self-employment. She asks, 'Need all graduates go into paid employment? If not, how can those keen on developing their own enterprise be supported early enough to take up the challenges of entrepreneurship before becoming attracted to paid employment?'

Considering the current labour market in Ghana, self-employment appears to be a last resort, as observed by the World Bank (2006: 19); some young people seize the opportunity to work for themselves while others do it out of necessity. This paper posits that one group of young Ghanaians – graduates – choose to run their own enterprises as viable sources of employment because they find it fulfilling and are motivated to do so. As noted by Thuy et al. (2001: 14): 'The world of work in 20 years' time

will look very different....many more will work for themselves rather than for someone else’.

The following question arises in this context: do graduates start their own enterprises because they are being constrained by, for example, absence of wage employment (a structural issue) or do they have their own motivation for doing so (an agency issue)? They choose different ways or strategies (diversity of pathways) but the target is the same for all; that is, they all end up in enterprises. In other words, there are different transitions through duality to own enterprises. This chapter argues that people exercise their agency in various ways and one of them is by choosing different pathways. With different initial human capital endowments, and therefore different agencies, graduates follow different pathways. These are highlighted in subsequent sections. Section 3.2 discusses the pathways to enterprise formation and development of all the graduates by first looking at their initial human capital (sources of education/training) and then their highest level of education (tertiary, post-basic and basic). Section 2.3 investigates the forms of self-employment, the graduates’ reasons for enterprise formation, and for going into wage employment among those in dual employment,² as well as the registration status of the enterprises. Section 2.4 focuses on employment creation among the entrepreneurs. The chapter concludes with section 2.5 on issues arising from the empirical and theoretical finding.

Profile of Respondents

Table 3.1 presents the relationship between the graduates’ present employment type (the column headings) and the other background variables of the graduates (the bold row headings). The present employment status (at the time of the interview) is of two broad types: fully self-employed and combining self-employment with wage employment (referred to as dual employed). Each of the types is further divided into two: those who have paid employees in their self-employed business (referred to as entrepreneurs)³ and those without employees (own-account workers). Thus, in all there are four groups of graduates: self employed own-account workers, self-employed entrepreneurs, dual-employed own-account workers and dual-employed entrepreneurs.

The observed differences between the types of present employment and the graduates’ sectors, initial human capital endowment (IHC), highest level of education, registration status of enterprises, educational system, mother’s education, gender and age are statistically significant.

There are no statistical differences between the type of employment, type and age of the enterprises, career aspiration, father's highest level of education, and parents' employment and employment types.

Table 3.1
Profile of graduates

Background Variables	Present Employment Type				Total	P - value ^c
	SE/E	DE/E	SE/OAW	DE/OAW		
Sector						*0.000
ICT	8 (40.0)	6 (30.0)	-	6 (30.0)	20 (16.5)	
Electrical Rewinding	-	-	9 (60.0)	6 (40.0)	15 (12.4)	
General Electrical	7 (24.1)	4 (13.8)	8 (27.6)	10 (34.5)	29 (24.0)	
Tailoring & Dressmaking	12 (40.0)	-	16 (53.3)	2 (6.7)	30 (24.8)	
Carpentry & Joinery	10 (37.0)	-	10 (37.0)	7 (25.9)	27 (22.3)	
IHC						*0.000
KNUST	11 (35.5)	9 (29.0)	-	11 (35.5)	31 (25.6)	
TTI	12 (27.3)	1 (2.3)	17 (38.6)	14 (31.8)	44 (36.4)	
TAT	14 (30.4)	-	26 (56.5)	6 (13.0)	46 (38.0)	
Highest Education						*0.000
University	11 (35.5)	9 (29.0)	-	11 (35.5)	31 (25.6)	
Post-Basic	20 (29.4)	1 (1.5)	30 (44.1)	17 (25.0)	68 (56.2)	
Basic	6 (27.3)	-	13 (59.1)	3 (13.6)	22 (18.2)	
Registration Status						*0.000
Unnoticed	2 (4.1)	1 (2.0)	24 (49.0)	22 (44.9)	49 (40.5)	
Registered	23 (52.3)	9 (20.5)	6 (13.6)	6 (13.6)	44 (36.4)	
Noticed	12 (42.9)	-	13 (46.4)	3 (10.7)	28 (23.1)	
Educational System						*0.006
Old.	20 (30.8)	10 (15.4)	17 (26.2)	18 (27.7)	65 (53.7)	
New ^a	17 (30.4)	-	26 (46.4)	13 (23.2)	56 (46.3)	
Mother's Education						**0.020
None	12 (32.4)	1 (10.0)	12 (27.9)	12 (38.7)	37 (30.0)	
Tertiary (Poly/Varsity)	6 (16.2)	1 (10.0)	1 (2.3)	2 (6.5)	10 (8.3)	
Training (Teacher/Nurse)	2 (5.4)	3 (30.0)	1 (2.3)	1 (3.2)	7 (5.8)	
Training (Teacher/Nurse)	6 (16.2)	1 (10.0)	5 (11.6)	1 (3.2)	13 (10.0)	
Basic	10 (27.0)	4 (40.0)	20 (46.5)	15 (48.4)	49 (40.5)	
Don't Know	1 (2.7)	-	4 (9.3)	-	5 (4.1)	
Gender						**0.023
Male	27 (26.7)	10 (9.9)	34 (33.7)	30 (29.7)	101 (83.5)	
Female	10 (50.0)	-	9 (45.0)	1 (5.0)	20 (16.5)	
Age of Graduates						**0.030
23 - 29 years	11 (24.4)	2 (4.4)	19 (42.2)	13 (28.9)	45 (37.2)	
30 - 34 years	17 (37.8)	3 (6.7)	19 (42.2)	6 (13.3)	45 (37.2)	
35 - 46 years	9 (29.0)	5 (16.1)	5 (16.1)	12 (38.7)	31 (25.6)	

Background Variables	Present Employment Type					P - value ^c
	SE/E	DE/E	SE/OAW	DE/OAW	Total	
<i>Father's Education</i>						***0.063
None	3 (8.1)	1 (10.0)	4 (9.3)	2 (6.5)	10 (8.3)	
Tertiary (Poly/Varsity)	13 (35.1)	5 (50.0)	4 (9.3)	5 (16.1)	27 (22.3)	
Training (Teacher/Nurse)	-	-	4 (9.3)	2 (6.5)	6 (5.0)	
Training (Teacher/Nurse)	5 (13.5)	1 (10.0)	7 (16.3)	4 (12.9)	17 (14.0)	
Basic	13 (35.1)	3 (30.0)	15 (34.9)	17 (54.8)	48 (39.7)	
Don't Know	3 (8.1)	-	9 (20.9)	1 (3.2)	13 (10.7)	
<i>Mother's Employment</i>						***0.078
Dual Employment	-	-	-	1 (3.2)	1 (0.8)	
Wage followed by SE	4 (10.8)	1 (10.0)	4 (9.3)	2 (6.5)	11 (9.1)	
Wage Employment	8 (21.6)	5 (50.0)	5 (11.6)	2 (6.5)	20 (16.5)	
Self-employment	25 (67.6)	4 (40.0)	34 (79.1)	26 (83.9)	89 (73.6)	
<i>Age of Enterprises</i>						***0.215
3 - 5 years	17 (23.9)	6 (8.5)	26 (36.6)	22 (31.0)	71 (58.7)	
6 - 10 years	20 (40.0)	4 (8.0)	17 (34.0)	9 (18.0)	50 (41.3)	
<i>Father's Employment</i>						***0.390
Own-Account Worker	5 (38.5)	1 (50.0)	4 (36.4)	7 (70.0)	17 (47.2)	
Entrepreneur	8 (61.5)	1 (50.0)	7 (63.6)	3 (30.0)	19 (52.8)	
<i>Mother's Employment</i>						***0.719
Own-Account Worker	22 (78.6)	4 (100.0)	28 (75.7)	21 (75.0)	75 (77.3)	
Entrepreneur	6 (21.4)	-	9 (24.3)	7 (25.0)	22 (22.7)	
<i>Career Aspiration</i>						***0.833
Changed	21 (56.8)	7 (70.0)	22 (51.2)	18 (58.1)	68 (56.2)	
Same	15 (40.5)	3 (30.0)	19 (44.2)	13 (41.9)	50 (41.3)	
Don't Know	1 (2.7)	-	2 (4.7)	-	3 (2.5)	
<i>Father's Employment</i>						***0.978
Dual Employment	4 (10.8)	1 (10.0)	2 (4.7)	3 (9.7)	10 (8.3)	
Wage followed by SE	5 (13.5)	1 (10.0)	8 (18.6)	3 (9.7)	17 (14.0)	
Wage Employment	17 (45.9)	6 (60.0)	23 (53.5)	15 (48.4)	61 (50.4)	
Self-employment	9 (24.3)	2 (20.0)	8 (18.6)	9 (29.0)	28 (23.1)	
Don't Know	2 (5.4)	-	2 (4.1)	1 (3.2)	5 (4.1)	

Figures in parenthesis are in percentage

^a In the new system, education at both basic and secondary levels has been split into junior and senior schools.

^b Unnoticed enterprises are enterprises that have not registered with the Registrar General's Department or come to the notice of the Assembly through payment of taxes such as the Artisan Licence or the Internal Revenue Service through payment of the Stamp Fee.

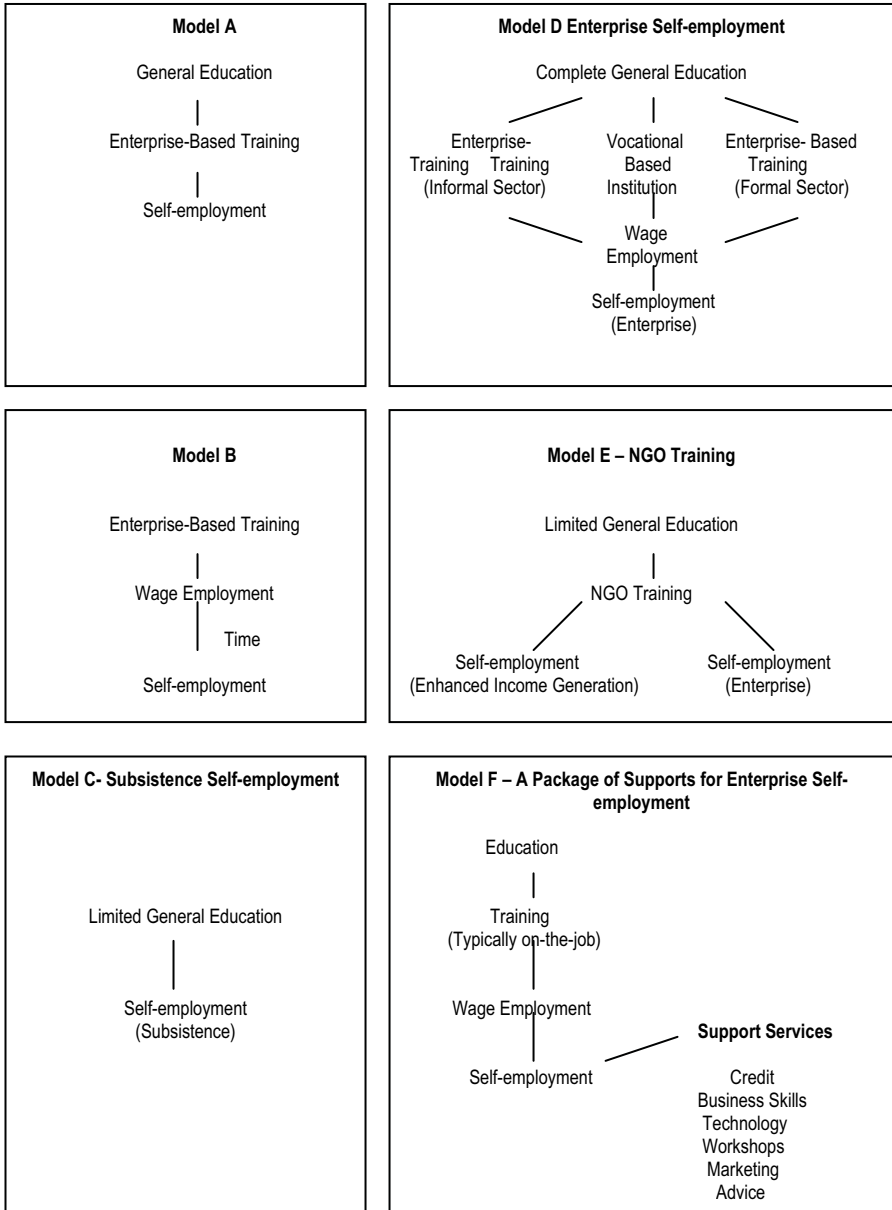
^c The P-value is based on the relationship between the column variable and the row variable (italicised).

*Significant at 0.01

**Significant at 0.05

***Insignificant at 0.05

Figure 3.1
Models of pathways



3.2 Pathways to Enterprise Development

3.2.1 Different Pathways for Different Graduates

McGrath et al. (1995) refer to various pathways, which begin with education or training at the lowest level of initial human capital endowment and end up in self-employment (see Figure 3.1). Model A, which is attributed to organisations like the World Bank, has a training component following basic education. The training can be on-the-job in informal or formal sector enterprises. This model 'is less explicit about what happens after training. It appears to be assumed that many graduates of both formal and informal sector enterprise-based training will become self-employed. However, it is not clear as to whether they will do so immediately after training' (McGrath et al., 1995: 109). Model B, attributed to Grierson (1993) by McGrath et al. (1995), starts with training in the informal sector for the acquisition of technical and other skills required to work. After training, the graduate needs to go through wage employment or as a journeyman in a workshop in the informal sector for about five years in order to accumulate capital to buy tools as well as make contacts and gain experience to start his or her enterprise. McGrath et al. (1995) generated Models C and D themselves, making a distinction between a pathway leading to 'subsistence self-employment' and one leading to 'enterprise self-employment'. Many young people with a low level of education in West Africa travel along the Model C path to enter into self-employment.

An improvement in the education provided in this Model will not in itself eradicate bare subsistence level existence for large numbers of informal sector actors. However, it could assist in the transition towards more prosperous self-employment. Therefore, it can be argued that the provision of good quality general education should be a major element in any integrated programme of support for the informal sector (McGrath et al., 1995: 113).

Model D is based on the assumption that, for most individuals, success in gaining access to enterprise development is founded on a good basic education and is achieved through any of the three pathways described above. In Model E, NGOs intervene by providing training to enable people whose limited access to education and training constrains access to enterprise self-employment. Enterprise-oriented NGOs focus on helping to achieve 'enterprise self-employment' whereas those that stress their 'social orientation' focus on helping to enhance the income generation capacity of individuals. In Model F, the importance of non-skill factors in

the form of support service(s) for ‘more productive enterprise self-employment’ is also acknowledged. Thus, the model ‘points to the necessity of seeking to combine something of what is known about the significance of particular support services’ (McGrath et al., 1995: 119).

3.2.2 Pathways of All Graduates in the Sample

This subsection discusses the different pathways to enterprise formation and development followed by the graduates in the study. To start with, let us clarify certain pertinent concepts. The term dual employment is defined here as engagement in wage employment and self-employment simultaneously. Self-employment is working for oneself. A self-employed or dual-employed person may be an own-account worker (that is, working without paid employees) or entrepreneur (working with paid employees). The presence or absence of apprentices or interns is irrelevant to the definition. Dual employment is assumed to be a ‘transitional’ stage; it is thus a definitional question and not an intermediate time period. It is also assumed that attainment of entrepreneur status in self-employment is the most important stage for most of the graduates. Thus, in all there are five pathway labels: wage employed, self-employed as an own-account worker, self-employed as an entrepreneur, dual employed as an own-account worker, and dual employed as an entrepreneur. The last category was not found at the beginning of the employment life of the graduates in this study. Table A3.1 at the appendix presents the summary of the relationship between the starting employment types and the present employment types of the graduates.

As Figure 3.2 shows, the majority of the graduates started with self-employment as own-account workers; the second most common beginning was in wage employment; the smallest group of graduates in the sample were in dual employment as own-account workers. Most of those who started in wage employment ended up in self employment, with a slightly higher proportion of them being entrepreneurs than own-account workers and a few in dual employment mostly as own-account workers. In addition, over time 27.6% of those who started in wage employment and 72.4% of those who began as own-account workers became entrepreneurs. The majority of those who started in self-employment as own-account workers continued to be in that category, while just under a third ended up in dual employment, mostly as own-account workers (that is, they regressed). However, all those who started in self-employment as entrepreneurs continued to remain in that category. None of the graduates

started in dual employment as entrepreneurs and the majority of those who started in dual employment as own-account workers got stuck at that level, either as own-account workers or entrepreneurs, with a few getting into self-employment as entrepreneurs. The observed differences among the groups are statistically significant (0.000) at 5% significant level, meaning that there is a relationship between the past and the present forms of employment.

Figure 3.2
Employment pathways of all graduates in the sample

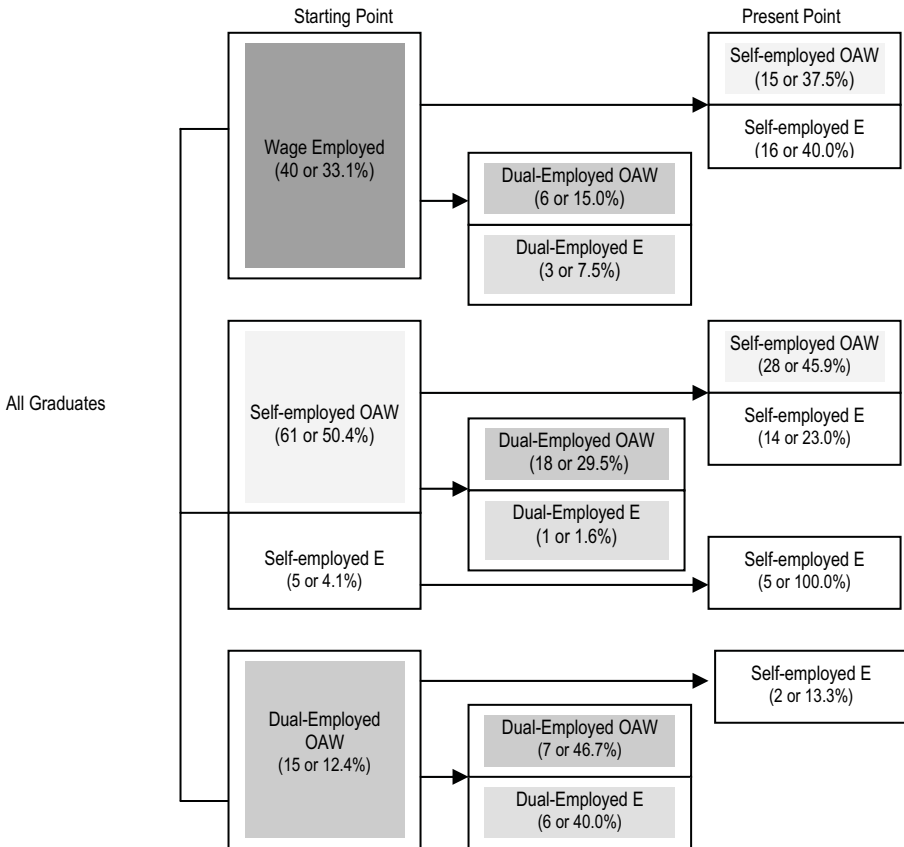
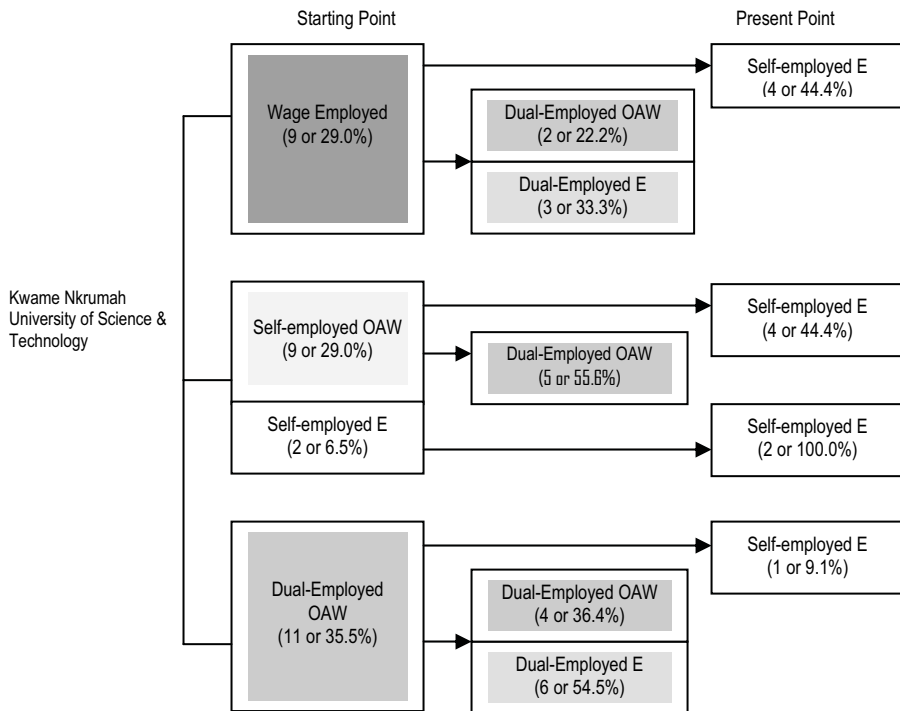


Figure 3.3
Employment pathways of KNUST graduates



3.2.3 Pathways of KNUST Graduates

Figure 3.3 sums up the pathways followed by the KNUST graduates. Box 3.1 provides examples from the case histories. The majority of the KNUST graduates got stuck in dual employment after starting in that category. Most of those were dual-employed entrepreneurs (and one person managed to rise to self employed entrepreneur) and the rest were own-account workers. Of those who started in self-employment as own-account workers, fewer than half became entrepreneurs and the rest went into dual employment, mostly as own-account workers. The few who started as self-employed entrepreneurs stayed in that category. Of those who started in wage employment; almost half became self-employed entrepreneurs. Of the slight majority who still remained in dual employment, some became own-account workers but the majority became entre-

preneurs. The observed differences are statistically significant (0.046) at 5% significant level; that is, for these graduates, the propensity to start from any other path and attain or remain in dual employment is high (except for those who started in self employment as entrepreneurs and remained in that category).

Box 3.1

Examples of trajectories of KNUST graduates

Pathway 1

F. Adjei-Mensah started his working life as an employee. He worked with one organisation for two years and joined another one for three years. At the end of the third year he started his own enterprise, which he operated alongside the wage employment for another three years before going fully into self-employment. The latest information indicates that, after being fully self-employed for six years, he has been employed by a company to do IT work for them. His reason for taking up this new job is that the computer school he set up is located in an urban mining community where most of the youth are not too enthusiastic about learning computing, unlike those in the cities. He has a few people who do the training at his school for him.

Pathway 2

B. Atitsobui developed a dislike for wage employment during the university holidays when he had three months internship on instrumentation and motor controls with Unilever Ghana Ltd., because those with a technical background were not given the due recognition. However, after his final year of national service as a teaching assistant in the Electrical Department at KNUST, he was employed at the Giant International Organisation as a communication systems engineer. After six months he resigned and joined the World Bank as an IT analyst for six and a half years. He started his own business with a few employees at the end of the third year with the Bank and later resigned and is now fully self-employed. His interest in self-employment began while doing his national service at the university, when his former lecturer began to sublet electrical jobs to him on contract.

Pathway 3

After his university education and national service, K. Asmah started his own business, manufacturing electrical equipment such as power supply systems, amplifiers and loud speakers. He was not successful because most of the customers were his friends and they bought on credit without settling their debts. However, he did not shut down the business. After 10 months, while still developing his own business, he was employed by National Cash Register as a customer service engineer providing after-sales service to clients. After two years he took up a new job with Unilever Ghana Ltd., where he worked for

four and a half years, first as an instrumentation engineer and later as an engineering services manager. There he gained insight into industrial automation. He wound up his own business because the Unilever job required all his time. Then an opportunity arose for a distributor and system integrator to represent and promote Rockwell Automation, an American company, in Ghana. Kweku was accepted for the position and has since been doing his own business.

Pathway 4

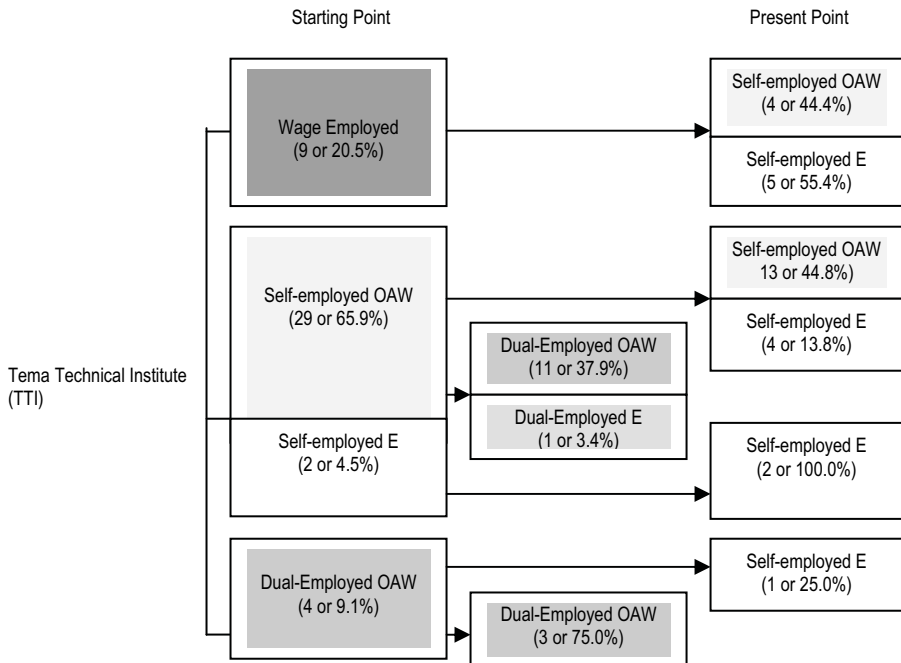
While waiting for his national service posting after university, M. Awuah worked for four months with X'cel Engineering Services, a consultancy firm that designs and supervises installation of engineering components for firms and contractors. That awakened an interest in self employment and he started a private enterprise with a friend. They registered the business, with the friend as a partner, but not as a limited liability company. His friend had basic tools, such as a screwdriver, multimeter and set of pliers, among others, with which they started the business. They hired other tools, for example, a drill. Awuah did his national service in the electrical section of the 49th Engineer Regiment of the Ghana Armed Forces, after which he was employed by the Bank of Ghana where he worked in the Computer Services Department for two years at Officer II grade. He was transferred to the Issue Department, where he headed the Currency Processing Section till he left the Bank. While at the Bank, he combined wage employment with his private business, joining his friend at weekends as well as spending some time at his enterprise after office hours during weekdays. In the third year of the enterprise's operation, he broke up with his friend and his portion of the enterprise work ground to a halt. After four years with the bank, his morale was low due to lack of due recognition and he resigned. He obtained a new job as an electrical engineer at Promasidor Ghana Ltd., then a new company in Ghana. Martin was instrumental in the installation of all the machinery and facilities in the factory, particularly the electrical aspects. After four years, he left and joined Fan Milk Ghana Ltd, as an electrical engineer, where he is currently. In 2002, he started his private business again alongside his wage employment. Because he is an own-account worker, he hires people to work with when he gets a contract. His goal is to get together a team of engineers to act as consultants for manufacturing companies. The focus is on maintenance and installation of machinery for enterprises that either do not have or cannot afford the full-time services of a qualified engineer and/or technician. When they import plants and machinery into the country, they lack the expertise and therefore seek a less expensive means to install and commission the equipment than flying in an expatriate to do it.

Pathway 5

E. Fiafor had a long educational journey. He branched off after his GCE Advanced Levels to pursue a City & Guilds of London diploma programme in electrical and mechanical engineering at a polytechnic. He registered his own business after successfully completing the course. He then studied for another

diploma and later an electrical and electronics degree at KNUST. After his university education, a distant relative who was a civil engineer introduced him to two engineering colleagues at Solar Energy Company, where Ericus was tested on solar technology, equipment design and systems integration. The company directors were impressed with the results and offered him a partnership in the company, a paid position as technical director and a spacious office free of charge. He was also given company shares. The company had no objection to him continuing to pursue his own private enterprise at the same time. Fiafor was given a contract by the country manager of ABB Ghana Ltd., under whom he had done his internship while studying for the university degree. He was also offered a job by Irani Brothers & Others Ltd., one of his major clients since 1998, and he turned it down. Irani Brothers & Others continue to be his clients. Fiafor's business focuses on PLC/controllers, automation (process control engineer) instrumentation, power utilisation, protection & control, electronics, drives, telecommunication and training. The business is affiliated to Schneider Electric Group.

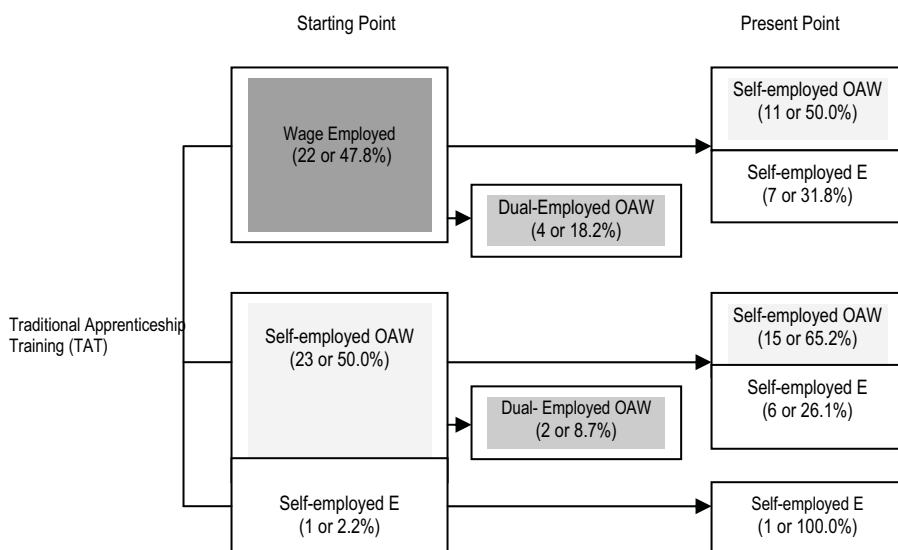
Figure 3.4
Employment pathways of TTI graduates



3.2.4 Pathways of TTI Graduates

Figure 3.4 shows the pathways followed by graduates of Tema Technical Institute. Those who started in wage employment moved straight into self-employment, with a little over half becoming entrepreneurs. The majority started in self employment as own-account workers, of whom most remained in that category while a few graduated to become entrepreneurs. The rest entered into dual employment, with most maintaining their status as own-account workers. A few graduates started in self-employment as entrepreneurs and were still in that category at the time of the research. A few also started in dual employment as own-account workers and one of them advanced to self-employment as an entrepreneur. The observed differences are statistically significant (0.037) at 5% significant level; that is, the propensity to start with wage employment and become self-employed is unique among the TTI graduates. The propensity is also high for a small proportion of those who started in self-employment as own-account workers to become dual employed.

Figure 3.5
Employment pathways of TAT graduates



3.2.5 Pathways of TAT Graduates

The pathways of the graduates from the traditional apprenticeship training (TAT) are presented in Figure 3.5. Most of those who started in wage employment ended up in self-employment, with the majority of them being own-account workers. About a fifth also ended up in dual employment as own-account workers. None of this group of graduates started with dual employment. Half of them started working in self-employment as own-account workers, and majority still remain in that category and fewer than a third have become entrepreneurs. Approximately one-tenth got into dual employment as own-account workers. Only one graduate started in self employment as an entrepreneur and still remains in that category. The observed differences are not statistically significant (0.449) at 5% significant level. The graduates in the study may be different from other TAT graduates that are generally known, as explained in Box 3.2.

Box 3.2

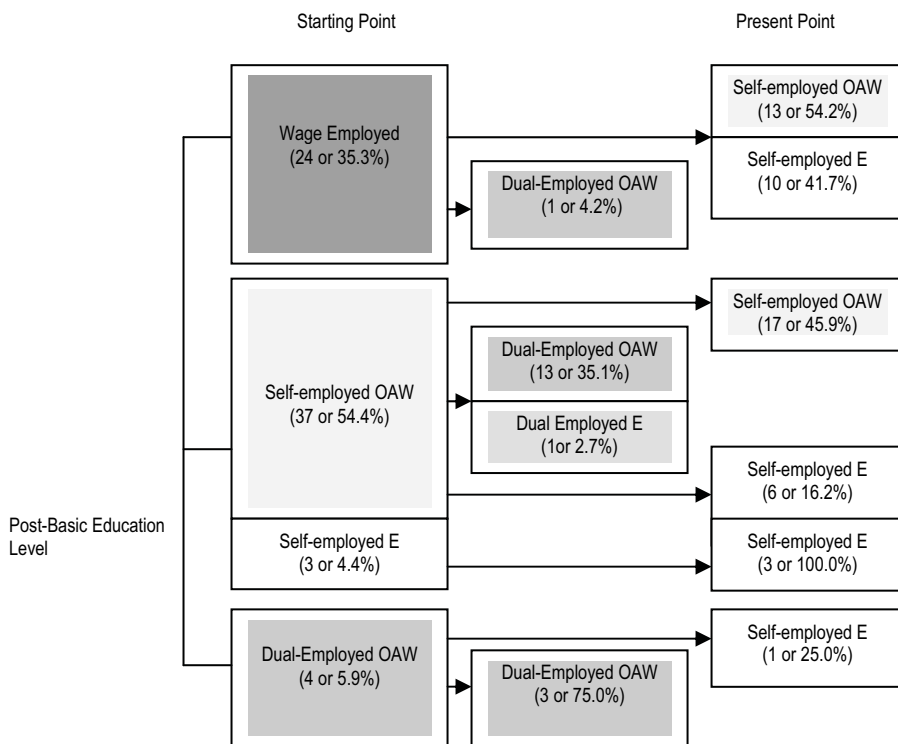
New breed of traditional apprenticeship training graduates

Apprenticeship training is often lumped together as a homogeneous entity without due regard to the differences in sectors, educational background of the master or madam in whose enterprise the training takes place, and the training method or learning mechanism that is employed. In this study, for example, virtually all the graduates in the Tailoring and Dressmaking enterprises learnt from a master with the General Certificate of Education Ordinary Level Certificate before gaining admission to the Tema Technical Institute where he acquired the skills. A few others also learnt from Auntie Maggie of Makkys Fashion. She is a graduate of the University of Science and Technology (now KNUST). She has a BA in Art (Painting & Design) and a postgraduate diploma in Art Education. Before setting up her own enterprises, the 55-year-old woman was a design teacher with the Ghana Education Service for 18 years. The Ghana National Tailors & Dressmakers Association also conducts at least a year's training for apprentices in the sector before their graduation. This is to iron out any deficiencies they might have as a result of learning from masters or madams with a low level of education.

In sum, the pathways of all the graduates and those of KNUST and TTI show statistically significant difference. Normally one would expect TAT graduates to have only basic education, but that is not so in this

study. For this reason, the data on pathways is further disaggregated by the highest level of education of the TTI and TAT graduates.

Figure 3.6
Employment pathways of post-basic education graduates



Post-basic education graduates are those who have gone through polytechnic, teacher training, senior secondary school (SSS), GCE ordinary level, technical school, vocational training and NVTI programmes.

3.2.6 Pathways of Post-Basic Education Graduates

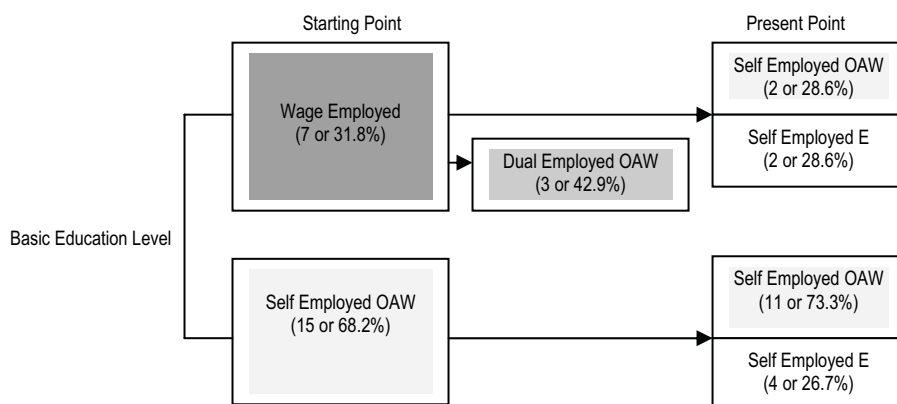
Figure 3.6 shows that almost all graduates with post-basic education who started in wage employment ended up in self-employment with a little over half of them being own-account workers and over one-third entrepreneurs. A few ended up in dual employment as own-account workers. A little over half of them started working in self-employment as own-

account-workers, close to half of them still remain in that category while fewer than one-fifth have become entrepreneurs. Three graduates started in self-employment as entrepreneurs and still remain in that category. A few of the graduates started in dual employment as own-account workers and three-quarters of them are still in that category. The remaining graduate has progressed to self-employment as an entrepreneur. The observed differences are statistically significant (0.005) at 5% significant level.

3.2.7 Pathways of Basic Education Graduates

Figure 3.7 shows that a little over half of the graduates with basic education who started in wage employment ended up in self-employment as own-account workers and entrepreneurs. The rest ended up in dual employment as own-account workers. In addition, a little over two-thirds started working in self-employment as own-account workers. Most of these still remain in that category and fewer than a third have become entrepreneurs. None of the TAT graduates started in dual employment or self-employment as entrepreneurs. The observed differences are statistically significant (0.018) at 5% significant level.

Figure 3.7
Employment pathways of basic education graduates



Basic Education Graduates are those who have gone through the Middle School, junior secondary school (JSS) and also those who went up to Middle School Form 2 (1 person) and secondary school Form 3 (1 person).

In short, there is a relationship between highest level of education and employment path.

3.2.8 Period of 'Transition'

A little over half of the graduates (50.4%) have traversed from one form of employment to another. As can be seen in Table 3.2, they are those who started their working life as: 1) wage earners who are now in self-employment or dual employment; 2) self-employed graduates who are now in dual employment; and 3) in dual employment and are now in self-employment.

Table 3.2
Period of transition from start to present employment

Period from Start to Present Employment*	Start to Present Employment				Total
	Wage to Self-Employment	Wage to Dual Employment	Self- to Dual Employment	Dual to Self-Employment	
0.6 months	1 (3.2%)	-	2 (10.5%)	-	3 (4.9%)
0.7 months	-	-	1 (5.3%)	-	1 (1.6%)
1.0	3 (9.7%)	1 (11.1%)	7 (36.8%)	-	11 (18.0%)
2.0	4 (12.9%)	2 (22.2%)	4 (21.1%)	-	10 (16.4%)
3.0	5 (16.1%)	1 (11.1%)	1 (5.3%)	1 (50.0%)	8 (13.1%)
3.5	2 (6.5%)	1 (11.1%)	-	-	3 (4.9%)
4.0	4 (12.9%)	1 (11.1%)	4 (21.1%)	-	9 (14.8%)
5.0	4 (12.9%)	1 (11.1%)	-	1 (50.0%)	6 (9.8%)
6.0	2 (6.5%)	-	-	-	2 (3.3%)
7.0	3 (9.7%)	-	-	-	3 (4.9%)
8.0	1 (3.2%)	-	-	-	1 (1.6%)
14.0	-	1 (11.1%)	-	-	1 (1.6%)
15.0	-	1 (11.1%)	-	-	1 (1.6%)
Missing	-	2 (6.5%)	-	-	-
Total	29 (50.8%)	9 (14.8%)	19 (31.1%)	2 (3.3%)	59 (100.0%)

* Unless otherwise indicated, the figures in the first column are in years.

From wage employment to self-employment appears to be the broadest span but the shortest path. That is, the graduates stay in wage employment for a long time but they end up straight in self-employment. On average, they remain in wage employment for about four years. Others who move into dual employment de-scale their commitment to wage employment by spreading their efforts quickly; that is when they start forming their own enterprises. On the average, they take about two years (excluding the extreme values) to move into dual employment. The few who

moved from dual to self-employment took an average of four years to do so.

3.3 Forms of Employment

3.3.1 Types of Wage Employment and Self-employment

The study also tried to determine if there are differences in the types of job the graduates took up in wage employment and self-employment. According to Peil:

Many of those who attend vocational schools were in jobs unrelated to the training they received; some have become drivers or traders; trained teachers have gone into catering, baking and office work. In some cases, this is the result of the low wages paid to teachers and nurses; more money can be made by going into business, and quite a few who continue their semi-professional careers carry on a business on the side. (Peil, 1995: 296)

As shown in Table 3.3, of the 87.3% (48) graduates whose jobs in wage employment and self-employment were either the same as or related to their training, the majority (20) were from KNUST, followed by graduates from TTI and then TAT. Of those, 12.7% (or 7) whose jobs in either wage employment or self-employment were different from their training, most (27.3% or 6) were from TAT and the rest (7.7% or 1) from TTI. In other words, unlike with KNUST graduates, the types of job done by TTI and TAT graduates in wage employment differ from their training, thus limiting their professional development in that job even though they may become somewhat multi-skilled. The observed differences are statistically significant (0.025) at 5% significant level.

Table 3.3
Types of wage employment and self-employment by IHC

Job Type	Initial Human Capital			
	KNUST	TTI	TAT	Total
Same/Related job ^a	20 (100.0%)	12 (92.3%)	16 (72.7%)	48 (87.3%)
Different job	-	1 (7.7%)	6 (27.3%)	7 (12.7%)
Total	20 (36.4%)	13 (23.6%)	22 (40.0%)	55 (100.0%)

^a The two university graduates did degree courses in electrical and electronic engineering, but they were engaged in information technology jobs (which forms part of the university courses) in wage employment.

It has also become evident that graduates from science-based programmes, especially ICT and General Electrical, do the same or related work in self-employment, unlike those from non-science-based programmes (especially those in Tailoring & Dressmaking) when they are in wage employment. The observed differences shown in Table 3.4 are statistically significant (0.039) at 5% significant level, indicating a relationship between sector and type of job done in wage employment.

Table 3.4
Types of wage and self-employment by sector

Job Type	Sector					Total
	ICT	Electrical Rewinding	General Electrical	Tailoring & Dressmaking	Carpentry & Joinery	
Same/Related job ^a	13 (100.0%)	9 (81.8%)	13 (100.0%)	4 (57.1%)	9 (81.8%)	48 (87.3%)
Different job	-	2 (18.2%)	-	3 (42.9%)	2 (18.2%)	7 (12.7%)
Total	13 (23.6%)	11 (20.0%)	13 (23.6%)	7 (12.7%)	11 (20.0%)	55 (100.0%)

^a The two university graduates did degree courses in electrical and electronic engineering but they were engaged in information technology jobs (which forms part of the university courses) in the wage employment.

3.3.2 Reasons for Self-employment

People go into enterprise for various reasons, some on the basis of individual experiences, others as a result of family factors, and some because of encouragement or pressure. The reasons may also include no alternative source of employment and income, preference for independence in making work-related decisions, creating own lifestyle, provision of help to the family, attraction of higher income from business profit, satisfying community needs for goods and services, and accumulating savings for further education (Kenyon and White, n.d: 12). Baah-Nuakoh explains the reasons from the structural perspective:

The youth entering the labour force for the first time and the unemployed in Ghana and other developing countries find it difficult to enter the labour market. This can be attributed to the fact that the labour market is saturated, and secondly the conventional type of education received by the youth does not equip them with the requisite specialised skills which the labour market demands of them. The youth then turns to the informal sector as an alternative source of acquiring skills in order to enter the labour market (Baah-Nuakoh, 2003: 134).

For Henley (2004: 2), entry into self-employment cannot be explained by economic shock but rather by the initial conditions, especially educational attainment and school, and parental background; those factors are critical in influencing self-employment decisions. For example, 'the probability of self-employment status rises if the mother was self-employed or if the father was a self-employed employer, and falls if the mother was a self-employed employer.' (Henley, 2004: 14) In addition to the background factors, 'push' and the 'pull' factors are often cited as the determinants. Peil (1995) found that youth in Ghana who have graduated from secondary schools are often in jobs such as petty trading, carpentry, tailoring and hairdressing, which 20 years ago might have been ignored by them.⁴ Marsden (1990) found that modern African entrepreneurs are motivated by personal gain as well as the need for self-expression and personal achievement. According to Penrose, even profit is not an overriding motivation:

In many industries and areas there are a considerable number of firms which have been operating successfully for several decades under competent and even imaginative management, but have refrained from taking full advantage of opportunities for expansion. Many of these are 'family firms' whose owners have been content with a comfortable profit and have been unwilling to exert themselves to make more money or to raise capital through procedures that would have reduced their control over their firms (Penrose, 1980: 34-5).

Furthermore, 'very good businessmen may well possess a personal scale of values in which an income greater than that necessary to provide a comfortable position in the community has a relatively low claim on time and effort' (Penrose, 1980: 34-5).

3.3.3 Enterprise Types and Reasons for Enterprise Formation⁵

The reasons for going into business are very important for understanding what actually goes on when the enterprise is finally set up since they serve as the vision, goals and motivations of the enterprise owners. The graduates were asked to select three out of nine reasons, if applicable, concerning their reasons for forming their enterprises and order them. In most of the 363 multiple responses, the reasons are psycho-social, with 'bringing out my creativity' marginally topping the list followed by 'seeking independence' and 'training others', 'passion for and interest in the trade' and 'job security'. At the bottom of the list is 'time for myself'

and family' (see Table 3.5). Among the factors, 'making more money' is the fourth highest reason. Employment-related issues are least important, especially 'lack of wage employment'.

Analysis of the reasons by type of enterprise ownership shows that a larger proportion of the entrepreneurs formed their enterprises mostly for reasons related to 'bringing out my creativity', 'training others', 'passion for and interest in the trade', and 'negative experience in wage employment', than the own-account workers who mostly had other reasons.

Table 3.5
Reasons for enterprise formation by type of ownership

Reasons	Type of Enterprise Ownership		
	Own-Account Workers	Entrepreneurs	Total
<i>Psycho-social</i>			
Bringing out my creativity	31 (14.0%)	31 (22.0%)	62 (17.1%)
Seeking independence	43 (19.4%)	18 (12.8%)	61 (16.8%)
Training others	36 (16.2%)	25 (17.7%)	61 (16.8%)
Passion for and interest in the trade	28 (12.6%)	25 (17.7%)	52 (14.3%)
Job security	21 (9.5%)	12 (8.5%)	33 (9.1%)
Time for myself and family	20 (9.0%)	8 (5.7%)	28 (7.7%)
<i>Finance related</i>			
Making more money	37 (16.7%)	19 (13.5%)	56 (15.4%)
<i>Employment related</i>			
Negative experience in wage employment	4 (1.8%)	4 (2.8%)	8 (2.2%)
Lack of wage employment	2 (0.9%)		2 (0.6%)
Total (Multiple Responses)	222 (61.2%)	141 (38.8%)	363 (100.0%)

The 'most important reason' given by the graduates is interesting: 'bringing out my creativity' (22.3% or 27), 'seeking independence' (20.7% or 25), 'passion for and interest in the trade' (19.0% or 23), 'making more money' (14.0% or 17), 'training others' (10.7% or 13), 'job security' (5.0% or 6), 'negative experience in wage employment' (4.1% or 5), 'time for self and family' (3.3% or 4) and 'lack of wage employment' (0.8% or 1).

Analysis of the relationship between the most important reason and type of employment shows that for self-employed own-account workers the top reason is 'seeking independence' (34.9% or 15), which forms a large proportion (60.0%) of the total. For self-employed entrepreneurs, the top reason is 'bringing out my creativity' (37.8% or 14), which forms

over half (51.9%) of the total. The top reason for dual-employed own-account workers is ‘making more money’ (22.6% or 7), which forms a large (41.2%) proportion of the total. Lastly, among dual-employed entrepreneurs, the top reason is ‘seeking independence’ (30.0% or 3), which is lower than that of self-employed own-account workers giving the same reason. The observed differences are statistically significant (0.039) at 5% significant level, showing that generally a larger proportion of those in dual employment aim at ‘making more money’ than their counterparts, who aim at ‘seeking independence’ and ‘bringing out creativity’.

Table 3.6 shows the most important reason for self-employment given by the graduates from KNUST, TTI and TAT. A larger proportion of KNUST graduates favours ‘passion for and interest in the trade’ than any other reason. For TTI graduates, the dominant reason is ‘seeking independence’ and for TAT graduates, it is ‘bringing out my creativity’. In addition, a larger proportion of those who gave ‘making more money’ as a reason were from KNUST. The observed differences are not statistically significant.

Table 3.6
First reasons for self-employment by initial human capital

Reasons	Initial Human Capital			
	KNUST	TTI	TAT	Total
<i>Psycho-social</i>				
Bringing out my creativity	5 (16.1%)	10 (22.7%)	12 (26.1%)	27 (22.3%)
Seeking independence	5 (16.1%)	14 (31.8%)	6 (13.0%)	25 (20.7%)
Training others	4 (12.9%)	3 (6.8%)	6 (13.0%)	13 (10.7%)
Passion for and interest in the trade	9 (29.0%)	6 (13.6%)	8 (17.4%)	23 (19.0%)
Job security	2 (6.5%)	2 (4.5%)	2 (4.3%)	6 (5.0%)
Time for myself and family	-	2 (4.5%)	2 (4.3%)	4 (3.3%)
<i>Finance related</i>				
Making more money	6 (19.4%)	4 (9.1%)	7 (15.2%)	17 (14.0%)
<i>Employment related</i>				
Negative experience in wage employment	-	2 (4.5%)	3 (6.5%)	5 (4.1%)
Lack of wage employment	-	1 (2.3%)	-	1 (0.8%)
Total	31 (25.6%)	44 (36.4%)	46 (38.0%)	121 (100.0%)

To sum up, there is a relationship between enterprise type and reasons for enterprise formation. The most important are more psycho-social than economic. Absence of wage employment is not a driving factor for enter-

prise formation among the graduates. Contrary to Frazer's finding, the graduates in this study see self-employment not as a last resort but as a viable career option.

Entry into Self-employment on Own Volition

The decision to go into self-employment is largely personal and of the individual's own volition; external circumstances have minimal influence, as shown in Table 3.7. This is also related to reasons for going into self-employment that have little or nothing to do with structural factors.

Table 3.7
Influences on decision to go into self-employment

Why decision was made	Frequency (%)
Personal decision ^a	91 (75.2%)
Seize the opportunity	2 (1.7%)
Economic situation	1 (0.8%)
Friends ^b	4 (3.3%)
Lecturer/Tutor	2 (1.7%)
Parents ^c	9 (7.4%)
Sibling	2 (1.7%)
Pastor - better than being under someone	1 (0.8%)
Interaction with someone in self-employment	1 (0.8%)
Managing director of a company ^d	3 (2.5%)
Husband - to have time for the family	1 (0.8%)
Aunts ^e	2 (1.7%)
Uncles ^f	2 (1.7%)
Total	121 (100.0%)

^a One of the KNUST graduates claims he got the motivation for self-employment through reading.

^b One of the friends was a master apprentice. He convinced N. Yaw to work on his own because he had the capability to do so.

^c Almost all are fathers. Regina E.A. took after her father who was working on his own; from Rebecca O. was advised by her father that self-employment is good for a woman because it gives her time for her family.

^d One of the graduates was employed by the director's company. The other two were given a contract by a director when they finished school; Augustina S.'s father was able to identify her interest and flair for the trade, implying that the sector is associated with self-employment. When I. Sey's father had a problem at his workplace, he realised the advantages of self employment and motivated I. Sey to start his own business. For two people, self employment is said to offer future job security.

^e D. Frimpong's aunt told him he could develop his skills more in self-employment than in wage employment; P. Tetteh's aunt advised him to go into self-employment instead of working for his 'master' for a meagre salary.

^f P. Ansah's father had gone into self-employment after retiring from wage employment and his uncle advised him to become self-employed, too.

3.3.4 Reasons for Dual Employment

Figures 3.2 to 3.7 show that dual employment can be said to be a ‘transitional’ stage because the ultimate aim of every graduate is to become fully self-employed as an entrepreneur. Examples from the case histories given in Box 3.1 and the reasons given by graduates for going into self-employment support this.

This section explores some graduates’ reasons for taking up wage employment. The graduates in dual employment were asked why they had gone for wage employment.⁶ As shown in Table 3.8, all except nine gave one reason; the others, who were all university graduates, gave two reasons. Just over two-thirds (68.3%) gave a financial motive as their first reason for taking up wage employment, that is, to raise additional funds either for themselves or as additional capital to support their self-employment businesses. The next important reason was to gain exposure to the sector or experience or professional development (14.4%). The least reasons were ‘fear of unknown’ and ‘doing the job I started first’. Regarding the second set of reasons given by only the university graduates, a large percentage (77.8% or 7) picked ‘gaining exposure or experience or professional development’.

Table 3.8
First and second reasons for wage employment

Reasons	1 st	2 nd
Raise income for myself or as capital	28 (68.3%)	1 (11.1%)
Exposure or experience or professional development	6 (14.6%)	7 (77.8%)
Attract customers, gain contact/recognition or boost up CV	3 (7.3%)	1 (1.1%)
Fear of unknown	1 (2.4%)	-
For secured pension	2 (4.9%)	-
Doing the job I started first	1 (2.4%)	-
Total	41 (100.0%)	9 (100.0%)

In terms of initial human capital endowment, ‘raise income for myself or as capital’ was picked most by university graduates, followed by TTI graduates and lastly TAT graduates. None of the TTI graduates and only one TAT graduates chose ‘exposure or experience or professional development’. As shown in Table 3.9, further analysis of the first set of reasons shows that a larger percentage of university graduates (46.4% or 13)

than any others went for ‘raising income for myself or as capital’ and ‘exposure or experience or professional development’ (83.3% or 5). The observed difference was statistically significant (0.010) at 5% significant level, which may be as a result of biases due to differences in each category.

Table 3.9
First reasons for wage employment by education level

Reason	Highest Level of Education					Total
	University	Post-Basic			Basic	
		Tch Trg /Poly	Sec/Tech	Vocational		
Raise income	13 (46.4)	1 (3.6)	11 (39.3)	2 (7.1%)	1 (3.6)	28 (100.0)
Exposure	5 (83.3)	-	-	-	1 (16.7)	6 (100.0)
Attract customer	1 (33.3)	-	-	1 (33.3%)	1 (33.3)	3 (100.0)
Fear of unknown	1 (100.0)	-	-	-	-	1 (100.0)
For secured pension	-	-	2 (100.0)	-	-	2 (100.0)
Is my old job	-	1 (100.0)	-	-	-	1 (100.0)
Total	20 (48.8)	2 (4.9)	13 (31.7)	3 (7.3%)	3 (7.3)	41 (100.0)

Figures in parenthesis are in percentage

Does this mean that TTI and TAT graduates or those with post-basic and basic education do not need money as capital or do not require exposure to the sector for their self-employed businesses? Some explanations from the case histories are that the graduates take time to build up their physical capital – machines and accessories or tools⁷ – which could explain why most start as own-account workers, without apprentices, and work from home during the early years of the enterprise. As explained earlier on in Box 2.1, all except the KNUST (university) graduates receive various kinds of help, financial or machines, from parents and extended family members. Two graduates used their mothers’ sewing machines; one received sewing machines from several sources – mother, spouse and uncle; another had a sewing machine from an aunt; and another had financial support from his mother to buy carpentry and joinery tools. Becky M., a TAT graduate, was previously in trading and bought her own sewing machine when she decided to learn tailoring and dress-making. In contrast, almost all the KNUST graduates started their businesses with their own resources. One received a computer from his mother to start a business on campus while in his sophomore year. This difference between TTI and TAT graduates, on one hand, and the

KNUST graduates on the other, may explain why most of the latter had to be wage or dual employed before going into self-employment. Anecdotes give the impression that university graduates have the capability to fend for themselves; they rarely obtain familial assistance.

Box 3.3
Comments on learning sources

B. Atitsogbui – KNUST

'The wage employment offers you opportunity to see what happens on the market and enables you to focus or to engineer which direction you can make an impact. Though it does not teach you how to trade, it tells you what clients expect from the market.'

K. Asmah – KNUST

'The industry is the best place for people to learn because that is where you see things happening. Right now in Ghana, the university has nothing so you come out and you don't have any clue as to what happens out there in the industry. For me, the best source of competence learning for this type of trade is the industry. We need to have a structured attachment programme in the industry for students. The situation at the university may be better now; it has some equipment but is still inadequate. During our time, it was worse because by the time I was completing, I had never seen a single Programmable Logic Controllers (PLC) which is really the basis for industrial automation.'

Martha H-A – TTI

'At TTI the theory was more than the practical; through TTI I can easily apply the theory and principles to every situation. If you are not able to do that, then the learning becomes a waste. Apprenticeship puts emphasis on the practical and to me both the practical and the theory should go hand in hand.'

Becky M. – TAT

'Perfect finishing, darting, balancing and pattern arrangement are very critical in sewing. Being able to learn these means a lot has been imparted to you. Most of the learning was practical. I learnt the theoretical aspect at the VSP programme.'

Regarding exposure to the sector or experience or professional development, the practical skills gained by TTI and TAT graduates appear to be adequate for them to start enterprises. At the workshops, some do private work – handling customers and so on; they take up tasks that can be delegated by their masters or madams. That may also give them confi-

dence to handle jobs after years of experience at the workshop. Extra knowledge and skills do not appear to be necessary for TTI and TAT graduates whereas they may be critical for KNUST graduates.

Some of the remarks concerning the importance of learning from the education institution and industry, which emphasise the sources of practical and theoretical competencies and from where they are obtained, are given in Box 3.3.

3.3.5 Business Registration Status

The enterprises in the study may be said to be inclined more towards the formal than the informal sector. In Ghana, all businesses have to be registered with the Registrar General but some businesses are not. Of those, some are noticed by the Metropolitan Assembly and/or the Internal Revenue Service and pay taxes or levies accordingly. In all, 40.5% (49) of the businesses are 'unnoticed'. Of the remaining (59.5% or 72), 36.4% (44) have registered with the Registrar General and 23.1% (28) have been 'noticed' by the Assembly and/or the IRS.

Analysis of registration status by current employment status of the graduates shows that a little more than half (56.1% or 23) of those involved in dual employment are 'unnoticed'; a little over a third (36.6% or 13) have registered with the Registrar General and 7.3% (3) have been 'noticed' by the Assembly and/or the IRS. The observed difference is statistically significant (0.005) at 5% significant level; that is a relationship exists between dual employment and registration status.

By self-employment type, a larger proportion of the entrepreneurs (62.2% or 23) have registered their businesses and 32.4% (25) have been 'noticed'. Only a few (14.0% or 6) of the own-account workers have registered, 30.2% (13) have been 'noticed' and the majority (55.8% or 24) have neither registered nor been 'noticed'. Those engaged in dual employment display a similar trend. Almost all (90.0% or 9) of the entrepreneurs have registered and 10.0% (1) neither registered nor been 'noticed'. Of the dual-employed own-account workers, the majority (71.0% or 22) have neither registered nor been 'noticed'; 19.4% (6) have been registered; and the remaining 9.7% (3) have been 'noticed'. These observed differences are statistically significant (0.000) at 5% significant level. So, entrepreneurs are more likely to register their businesses than own-account workers.

In conclusion, formalisation of enterprises in terms of registration relates to employment status as an entrepreneur in self-employment or dual

employment. The Assemblies and IRS have a positive role to play with regard to educating enterprise owners and enforcing registration.

3.4 Entrepreneurs and Employment Creation

This section analyses the extent to which graduates in the various sectors and with different initial human capital endowments have created employment for others. There may be different ways of calculating changes in employment. Kinyanjui et al. (1997) look at growth rate over a uniform period during which the micro environment was the same for the enterprises in their study. They calculated the absolute and percentage changes over a four-year period.

Employment change can be calculated in several ways. The simplest is the absolute change in employment from the firm's inception. Although this can yield some interesting information, the results cannot be compared across business, of varying ages. A second alternative is to calculate the annual rate of change over the life of the business, but even this fails to take into account the ways which businesses are affected by the economic conditions prevailing during their particular business history. Thus a business founded just after a recessionary period might register a higher lifetime average growth rate than one begun a year earlier (Kinyanjui et al., 1997: 1102-3).

Analysis of entrepreneurs and employee size by sector shows that entrepreneurs in ICT (70.0% or 14) have employed 103 people, those in General Electrical (37.9% or 11) have taken on 44 people, and those in Tailoring & Dressmaking (40.0% or 12) have employed 25 people (see Table 3.10).⁸ The 10 (37.0%) entrepreneurs in Carpentry & Joinery have employed 28 people. The observed differences are statistically significant (0.014) at 5% significant level demonstrating that ICT enterprises run by university graduates create more employment than those in other sectors.

Being an entrepreneur is as important as the number of people they are able to employ. Over half of the university graduates (64.5% or 20) have so far employed 137 people;⁹ the minimum number employed is two and the maximum is 19. The entrepreneurs from TTI (29.5% or 13) have employed 32 people and those from TAT (30.4% or 14) so far have 31 employees. These observed differences are statistically significant (0.003) at 5% significant level as shown in Table 3.11, a demonstration of the relationship between initial human capital endowment and employment creation.

Table 3.10
Number of employees of the entrepreneurs by sector

Number of Employees	Sector					Total
	ICT	Electrical Rewinding	General Electrical	Tailoring & Dressmaking	Carpentry & Joinery	
1	-	-	2 (6.9%)	6 (20.0%)	4 (14.8%)	12 (9.9%)
2	1 (5.0%)	-	1 (3.4%)	3 (10.0%)	1 (3.7%)	6 (5.0%)
3	2 (10.0%)	-	2 (6.9%)	1 (3.3%)	2 (7.6%)	7 (5.8%)
4	-	-	3 (10.3%)	1 (3.3%)	1 (3.7%)	5 (4.1%)
5	3 (15.0%)	-	-	-	1 (3.7%)	4 (3.2%)
6	-	-	1 (3.4%)	1 (3.3%)	-	2 (1.7%)
7	3 (15.0%)	-	1 (3.4%)	-	1 (3.7%)	5 (4.1%)
8	1 (5.0%)	-	-	-	-	1 (0.8%)
9	-	-	1 (3.4%)	-	-	1 (0.8%)
10	2 (10.0%)	-	-	-	-	2 (1.7%)
12	1 (5.0%)	-	-	-	-	1 (0.8%)
19	1 (5.0%)	-	-	-	-	1 (0.8%)
Total	103	-	44	25	28	200
Average number of employees	7.4	-	4.0	2.0	2.4	4.3
Average age of enterprises	5.4	5.0	5.2	6.6	5.8	
Own-Account Workers	6 (30.0%)	15 (100.0%)	18 (62.1%)	18 (60.0%)	17 (63.0%)	74 (61.2%)

Table 3.11
Number of employees by initial human capital

Number of Employees	IHC			
	KNUST	TTI	TAT	Total
1	-	4 (9.1%)	8 (17.4%)	12 (9.9%)
2	1 (3.2%)	3 (6.8%)	2 (4.3%)	6 (5.0%)
3	2 (6.5%)	4 (9.1%)	1 (2.2%)	7 (5.8%)
4	3 (9.7%)	1 (2.3%)	1 (2.2%)	5 (4.1%)
5	3 (9.7%)	-	1 (2.2%)	4 (3.2%)
6	1 (3.2%)	1 (2.3%)	-	2 (1.7%)
7	4 (12.9%)	-	1 (2.2%)	5 (4.1%)
8	1 (3.2%)	-	-	1 (0.8%)
9	1 (3.2%)	-	-	1 (0.8%)
10	2 (6.5%)	-	-	2 (1.7%)
12	1 (3.2%)	-	-	1 (0.8%)
19	1 (3.2%)	-	-	1 (0.8%)
Total	137	32	31	200
Average Number. of Employees	6.9	2.5	2.2	4.3
Average Age of Enterprises	5.6	5.5	5.9	
Own-Account Workers	11 (35.5%)	31 (70.5%)	32 (69.6%)	74 (61.2%)

Mead and Liedholm (1998) found an inverse relationship between the age of MSEs and enterprise expansion, with younger enterprises likely to show higher growth rates than the older ones. They also found enterprise expansion to be related to sector. The age of the entrepreneurs' enterprises may influence employment creation in some sectors. In this study, however, 65.0% (13) of the ICT enterprises are aged five to six years; 53.3% (8) in Electrical Rewinding and 55.2% (16) in General Electrical are aged three to four years. A large proportion of the Tailoring & Dress-making (46.7% or 14) and Carpentry & Joinery (40.7% or 11) enterprises are 7 to 10 years. The observed differences are statistically significant; the age of an enterprise is less important for employment creation than the initial human capital of the entrepreneurs.

Table 3.12 presents the number of apprentices being trained or having been trained by graduates with various initial human capital endowments. In all, only about a third of the graduates (33.9%) have at least one apprentice. On average, the highest proportion of graduates with apprentices is from TAT, followed by KNUST and finally TTI. The observed differences are not statistically significant (0.147) at 5% significant level.

Table 3.12
Number of apprentices by initial human capital

Number of Apprentice	Initial human capital			Total
	KNUST	TTI	TAT	
0	26 (83.9%)	33 (75.0%)	21 (45.7%)	80 (66.1%)
1	2 (6.5%)	7 (15.9%)	9 (19.6%)	18 (14.9%)
2	1 (3.2%)	3 (6.8%)	6 (13.0%)	10 (8.3%)
3	1 (3.2%)	1 (2.3%)	5 (10.9%)	7 (5.8%)
4	1 (3.2%)	-	2 (4.3%)	3 (2.5%)
7	-	-	1 (2.2%)	1 (0.8%)
10	-	-	1 (2.2%)	1 (0.8%)
12	-	-	1 (2.2%)	1 (0.8%)
Total	31 (25.6%)	44 (36.4%)	46 (38.0%)	121 (100.0%)
Average Number of Apprentices	2.2	1.45	2.92	
Average Age of Enterprises	5.6	5.5	5.9	

Table 3.13 displays the number of interns at the graduates' enterprises. Only 14% of the enterprises have trained at least one intern and the highest proportion is those of KNUST, followed by TTI and TAT. Thus, the higher the initial human capital endowment the higher the average num-

ber of interns, and vice versa. However, the observed differences are not statistically significant (0.147) at 5% significant level.

Table 3.13
Number of interns by initial human capital

Number of Interns	IHC			
	KNUST	TTI	TAT	Total
0	23 (74.2%)	37 (84.1%)	44 (95.7%)	104 (86.0%)
1	2 (6.5%)	3 (6.8%)	1 (2.2%)	6 (5.0%)
2	5 (16.1%)	4 (9.1%)	1 (2.2%)	10 (8.3%)
3	1 (3.2%)	-	-	1 (0.8%)
Total	31 (25.6%)	44 (36.4%)	46 (38.0%)	121 (100.0%)
Average Number. of Interns	2.92	1.57	1.5	
Average Age of Enterprises	5.6	5.5	5.9	

3.5 Conclusion

Agency is exercised in various ways, of which one is through employment pathways. Having different initial human capital endowment or levels of education, and therefore different agencies, the graduates followed different pathways. Despite the ‘diversity of pathways’, some graduates ended up as entrepreneurs (37 self-employed and 10 dual employed) or most of them became ‘fully’ self-employed (43 own-account workers and 37 entrepreneurs). The majority of all the graduates started self-employment as own-account workers; those who started working as entrepreneurs remained in that category irrespective of their initial human capital endowment. Also, over time, those who started as own-account workers or full wage earners became entrepreneurs. Most of those in the sample who started off in self-employment are TAT graduates, followed by TTI graduates (or basic education followed by post-basic education) and KNUST (university) graduates. Thus, the lower the level of education the stronger the tendency to start working in self-employment and as own-account worker. Two different pathways can also be established. One is from the perspective of both formal and informal education, and the other from the perspective of formal education alone.

Dual employment was higher among KNUST graduates than those from TTI and TAT. Within dual employment, university graduates tend to do the same or related job in wage employment as in self-employment, unlike those with lower levels of education. Graduates who start working

in dual employment as own-account workers mostly continue to remain dual employed, but more of them progress to become dual-employed entrepreneurs.

Most of the university graduates took on wage employment primarily in order to earn income for themselves or to raise (more) capital for their businesses. Their second reason was to gain exposure to the sector, experience or professional development. This finding that graduates take up wage employment in order to accumulate savings or to get work experience to start their own enterprises raises some concerns. One reason for it could be that, because the market in the ICT and General Electrical sectors is still booming in Ghana, especially as people and organisations have become and are becoming more aware of the sectors' importance, entry into them seems to be easy. It could be also that graduates with lower levels of education have few opportunities to gain professional experience in wage employment because they might not get the job they have been trained to do. Hence, not only agency but also structure may play a role of the type of job a person does. Another reason for the finding could be that university graduates want to go fully into self-employment as entrepreneurs and therefore need some resources to do so.

The motivation for self-employment differs. There is a relationship between the graduates' present type of enterprise and the reasons for enterprise formation (going into self-employment). The most important reasons are psycho-social, with the topmost being 'bringing out my creativity' and 'seeking independence'. Lack of wage employment is not a driving factor for enterprise formation.

The graduates with the highest initial human capital endowment have demonstrated greater ability to create employment for others than those with the lowest endowment. Thus, increasing the self-employability of graduates with post-basic education and training, especially those from universities, would have a trickle-down effect of generating more wage employees and self employers who are skilled enough to be on their own. There is a higher propensity for micro and small enterprises of university graduates to give birth to new and skilled self-employed people than those of TAT graduates. This relates to enterprises in the 'middle-age' group, and is thus different from the finding of Mead and Liedholm (1998). Also, the number of apprentices and interns engaged by KNUST graduates at least provide some evidence of the potential that the enterprises of university graduates have to train more people.

Some authors give structural-related explanations for enterprise formation; for example, the explanation by the World Bank (2006) for inability of young people to work for others and the presentation of self-employment of TAT graduates as a last resort by Frazer (2006). This study sees enterprise formation as more of an agency issue than a structural one; graduates are attracted to self-employment on the basis of individuals' desire for fulfilment in their lives rather than because of constraining factors compelling them to do so. This supports Marsden (1990), Thuy et al. (2001) and Szabo (2003), who all contend that individuals take up the challenge of forming their own enterprises because they have the motivation to do so.

Notes

¹ The concepts of niche, navigation and trajectory were used previously.

² The term dual employment is defined here as involving both wage employment and self-employment simultaneously. A self-employed person may be an own-account worker (that is working alone without paid employees) or an entrepreneur (working with paid employees). In both cases, the self-employed person may or may not have apprentices or interns. The employees of the entrepreneurs are all paid workers. In the sample studied for this thesis, there was no unpaid labour, even where a family member was employed.

³ Apart from using the term 'entrepreneur' to contrast with 'own-account worker', in some instances the term is used in the generic sense to refer to all self-employed graduates.

⁴ They were probably made to believe that such jobs were not good, a perception which still prevails today.

⁵ The reasons for enterprise formation were also compiled from the preliminary survey as responses to an open-ended question which preceded the main fieldwork.

⁶ Which employment type came first, self-employment or wage employment, did not matter.

⁷ Although the study did not ask whether they had applied for a loan before, none mentioned ever obtaining a loan.

⁸ There is no entrepreneur among those in Electrical Rewinding.

⁹ This excludes the nine additional employees that E. Fiafor took on recently.

4

Enterprise Performance: Competence and Success

4.1 Introduction

The rise in competition based on quality and its repercussions for human resource development is important in local and global business, requiring some level of competence among firms to stay in business or be at the top. Today's business competition does not rest so much on price as quality, with acquisition and renewal of competencies as its basis. 'The new competition is not based on price differences but on knowledge' (Oyelaran-Oyeyinka, 2006: 66). Thus there is a shift in the study of competitiveness based on machine technology and organisation to collective learning and knowledge (Helmsing, 1999). To Kim (2003: 19), '[K]nowledge is the factor with which entrepreneurs can distinguish themselves from their competitors. Knowledge is the means for SMEs to overcome poor business environment and change the complex business environment to be manageable.'

The importance of competencies to Ghanaian establishments has been acknowledged. As a result of weak competence and capacity, firms in Ghana are constrained in their ability to participate in markets. Skill levels are low, production methods are poor, marketing know-how and access to capital, are lacking (Government of Ghana, 2003: 7). When President Kufuor took office, in his inaugural address he observed: 'To get to this golden age, our farmers and workers must join the crusade through their hard work and discipline. They must accept a new work ethic, embrace new methods of working and constantly update their skills to make us an integral part of the global economy' (*Ghanaian Times*, 2001: 11).

What are the competencies relevant to the enterprises in this study and how are they to be defined? Who defines the success measures of an enterprise and are the measures different for different enterprises? This chapter demonstrates the exercise of agency to achieve the graduates'

own conception of enterprise success that has been used so far as the basis for assessing their performance. It also argues that the enterprises are caught up in the web of quality competition. Learning underlies competition on the basis of quality and this sets the stage for looking at two theories of enterprise learning. The competencies used in the study are identified by experts who are also practitioners in the same sector as the graduates. Enterprise performance is measured by looking at the relationship between competence and success levels of the graduates. The chapter analyses whether or not graduates with different competence levels differ in their levels of success. Section 4.2 looks at two important related theoretical perspectives – the competence theory of the firm and the technological capability theory. The section also discusses competencies in the context of SME enterprise development in Africa, especially in Ghana. Section 4.3 focuses on the arguments over price and quality competition. Section 4.4 considers the methodological approaches to defining competencies and the indicators or measures of enterprise success. The relationship between competence and success from the survey is discussed in section 4.5. Section 4.6 concludes the chapter.

4.2 Theoretical Argument

Competencies or capabilities are required for a firm to have an edge over its competitors. They are normally in tacit and codified form; the former are difficult to imitate and transfer. They can be found within and outside a firm. Firm learning requires going beyond one's own boundary to learn from others through networking, to benchmark the best practices of others and outperform them.

4.2.1 Competence Theory of the Firm

The origin of the competence theory of the firm is largely attributed to Edith Penrose in her seminal work in 1959. Her work is said to be a renewed interest and not a new idea since its central theme, the 'knowledge-based conceptualisation of the firm', was present in the work of Alfred Marshall (Pedersen and Valentin, 1996; Christensen, 1996). Foss and Foss (2000) give Penrose the credit for blossoming the idea. Different concepts or terminologies are sometimes used: knowledge-based approach (Foss and Foss, 2000) and competence perspective (Sanchez, 2001).

The competence perspective emerged from the field of strategic management as today's dominant perspective of firm strategy (Foss, 1996). The theory posits that a firm stands to gain competitive advantage as a result of its resources and competencies. Penrose (1980: 7) focused on the process of growth of firms and the limits to the growth rate. She limited herself only to the firms that could grow¹ and her concern was to discover the determinants of the kind of firm that would take advantage of opportunities for expansion when they offered themselves and the extent to which that could be done. Once opportunities for profitable investment arise, there also exists opportunities for firms to grow (Penrose, 1980).

Penrose sees a firm as an administrative organisation and a 'collection of productive resources', with the resources consisting of 'a bundle of potential services'. That is, it goes beyond the individual and involves coordination of the various resources within it. A firm's resources are of two types: physical (tangible) and human; they are different from services, which are a function or an activity. In the production process, the services rendered by the resources serve as the 'inputs' and the way resources are used is a determinant of the service yielded. The firm exists to produce and sell goods and services at a profit by organising its 'own' resources and those acquired from outside. The 'productive opportunity', that is, the productive possibilities that a firm's *entrepreneurs*² see and are able to take advantage of, is what governs the firm's productive activities. The growth of a firm is explained in terms of profit maximisation, and the entrepreneur, on the basis of his preferences or ambition, may not achieve such a goal despite having managerial skills and imagination. Lawson (2002) explains the competence perspective as, *inter alia*, having to do with the abilities to learn, produce and occupy certain market positions.

Sanchez (2001: 7) uses the words resources and competencies. Resources are the actual assets available to an organisation for the pursuit of its goals. They are both 'firm-specific assets' (which are internalised within a firm) and 'firm-addressable' assets (which, though outside the firm's boundaries, can be accessed when needed). Competence is the organisation's ability to sustain deployment of assets and capabilities in a coordinated manner to help in the achievement of its goals (Sanchez 2001: 6). Sanchez's explanation of the concept has to do with management functions and sees competence as an organisation's property depending on vital inputs from managers, namely, to articulate the general goals and to define specific actions that will assist in the achievement of

the organisation's goals and to coordinate the use of resources in performing those actions. Thus, through competence building, competence leveraging and competence maintenance, firms can achieve their goals (Sanchez, 2001).

Foss (1996a) explains competence from the strategic management perspective as a 'typically idiosyncratic knowledge capital' enabling the holder to perform activities or solve problems, especially in a particular way and more efficiently than others. It has a 'skill-like character' in that a large part of it is tacit and is asymmetrically distributed. Although it may reside in individuals, it is seen as more of a firm's property than the property of an individual, thus making it hard to imitate and to transfer. Firms are repositories of competence (or productive knowledge), according to Helmsing (2000: 20) and their long-run competitive advantage is determined by their ability to accumulate, protect, renew and eventually deploy their competencies to product markets. Furthermore, their competence endowments co-determine their boundaries, especially degree of diversification. Foss (1996a: 3) ascribes the growing interest in the competence perspective after the 1980s to both external and internal causal factors, which include:

- The death of the conglomerate: the need for a return to core business becomes conventional wisdom.
- The empirical importance of internal factors for understanding competitive advantage, exemplified by the superior efficiencies ascribed to Japanese production methods.
- A related and also increasing interest in emphasising the knowledge dimensions of the firm within economics and strategic management.

According to Pedersen and Valentin (1996) the 'total bundle of synergy-producing competences' – path-dependent, asymmetric information and causal ambiguity – serve as an effective barrier to imitation by other firms. Competences, in addition to being difficult to imitate, must also be durable. Durability can take the form of trade mark or reputation. In addition, the firm must be capable of appropriating the return on its competencies by obstructing their transfer to other units, for example, the risk of transferring important competencies to competitors through staff mobility. This risk can be limited by strengthening the competences' collective qualities and making them less dependent on the individual employees.

For core competencies (ones that define a firm's fundamental business as core, according to Teece et al., 1997) to serve as foundations for com-

petitive advantage, certain criteria need to be met (Ericksen and Milkkel- sen, 1996: 62); the competencies should be:

- *Valuable* (by improving the firm's efficiency. In other words they should result in value and cost superior to that of a firm's competitors);
- *Heterogenous* (that is, the created value should be based on the deployment of different resources than those of the competition);
- *Imperfectly imitable*. The firm should prevent imitation, but that depends on two isolation mechanisms: the nature of the resources (for example, tacitness and causal ambiguity) and the legal strategies employed to protect the firm's valuable resources (for example, trade secrets, patents, trade marks and contractual safeguards);
- *Difficult to substitute* (to reduce the chances of other enterprises using substitution to overcome the difficulty of imitating the core competencies).

Nelson and Winter (1982), writing from the perspective of evolutionary theory, define a skill as 'a capability for a smooth sequence of coordinated behavior that is ordinarily effective relative to its objectives, given the contest in which it normally occurs' (Nelson and Winter, 1982: 73). The key ideas of evolutionary theory are:

- Firms at any time are viewed as possessing various capabilities, procedures, and decision rules that determine what they do given external conditions.
- They also engage in various 'search' operations whereby they discover, consider, and evaluate possible changes in their ways of doing things.
- Firms whose decision rules are profitable, given the market environment, expand; those firms that are unprofitable contract (Nelson and Winter, 1982: 207).

Among the characteristics of skill identified by Nelson and Winter are:

- They are programmatic – involving a sequence of steps with one step fully completed to usher in the next step.
- There is a tacit component – the knowledge underlying a skilful performance is largely tacit, in that the one performing the skill is not fully aware of the nitty-gritty involved in the performance, which

makes articulation of full account of the details either difficult or impossible.

- They involve making of choices –exercise of skills often entails making of numerous choices which is to a large extent done automatically without awareness.
- There is ambiguity in skill scope – this is due to the fact that skills have a complex, structure and that limits articulation of knowledge applied in a skilful performance.
- Inherent in the theory is the importance of networking, as it enables an organisation to make up for its performance deficiencies by benefiting a lot from other individuals and organisations (Nelson and Winter, 1982: 125).

Robertson (1996), however, contends that there is no guarantee that firms that have superior competencies will gain a competitive advantage; firms need to formulate competitive strategy by considering the requirements or needs of their market and their capacity to meet the needs. Success requires firms to employ ways of combining requisite competencies in a manner that will best meet three conditions for satisfying customers and also operating profitably. The conditions are provision of goods and services that:

- can be produced with non-cost attributes attractive to potential buyers;
- can be produced at a price that is also acceptable to those buyers;
- enable an acceptable return on the productive resources involved (Robertson, 1996: 77).

This study acknowledges that internal resources (competencies) are necessary but not sufficient, especially in the face of (quality) competition in the contemporary business environment. Interaction with other firms serves as a source for gaining further competencies.

4.2.2 Technological Capability Theory

Another theory that is related to learning by firms is the technological capability theory. Dosi (1982) defines technology as ‘a set of pieces of knowledge, both directly “practical” (related to concrete problems and devices) and “theoretical” (but practically applicable although not necessarily already applied), know-how, methods, procedures, experience or successes and failures and also, of course, physical devices and equip-

ment'. To Drucker (1977: 569) technology is a means of accomplishing a task and it may or may not include the use of machines.

A distinction is made between the hardware, which is about machines and equipment, and the software embodying knowledge and skills (Romijn, 1998; Arnold and Thuriaux, 1997). Teece (1986) sees technology in relation to products and process as well as codification and tacitness. The ease of imitation is affected by the extent to which knowledge is either tacit or codified. Tacit knowledge involves difficulty in articulation, thus making transfers difficult unless the possessors of that know-how are able to demonstrate it to others. Codified knowledge can be found in manuals, directories or software code presented in a written format. Relatively, tacit knowledge is unformulated and interiorised. It can be obtained through conversation, responses to questions, and speculating, hypothesising or brainstorming processes. Its disclosure requires, among other things, conventions on confidentiality, disclosure, exploitation or intellectual property (Cooke, 2002: 180). Appleton more or less cautions that the software aspect of technology is as equally important as the hardware aspect and neglecting it amounts to ignoring the capacity to innovate, which is important to entrepreneurs to enable them meet the challenges they encounter in their environment (Appleton, 1994: 11). Regarding the two broad classifications of technology, Kim and Nelson (2000) regard technology as relating to design, quality of the product, type of raw materials used, quality of raw material used, organisation of production, packaging and selling of the final product.

The principal means by which firms compete is technology (Malecki, 1991) and the firm, besides the state, is found to be the principal locus of technological capacity accumulation because of the need for it to build the capability for maintenance of competitiveness (Juma and Clark, 2002).³ Technology is often developed from below, building on the level of skills of the workers, the training capacity in the country and the available institutions for technology adoption and innovation diffusion (Van Dijk and Sandee, 2002).

Firms are linked through the exchange of resources – information, knowledge, materials, finance, personnel, equipment and ownership – and their exchange relationships with other actors generally influence their ability to accumulate technological capability. They operate in a complex industrial network marked by competition and cooperation. The extent to which firms participate in trading and knowledge networks may limit their innovative capabilities because innovation is an interactive

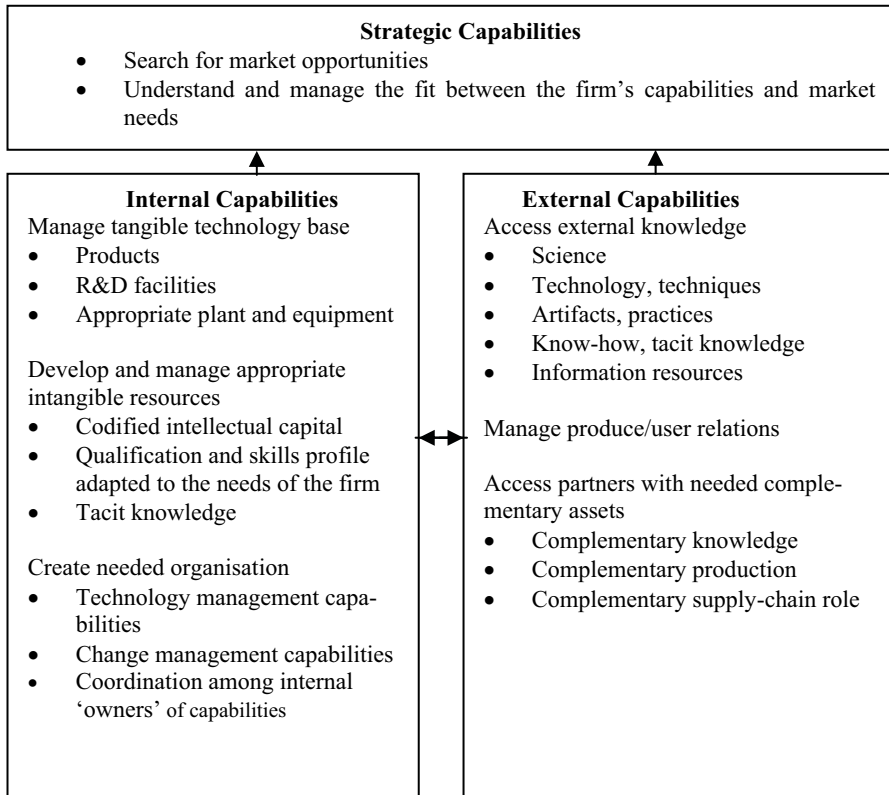
process involving ‘the recombination and validation of a wide range of pieces of information’ (Juma and Clark, 2002: 9). Some of the important sources of scientific and technical information as well as technological learning for firms are subcontracting arrangements, buyers and suppliers, inter-firm movements of skilled personnel, local universities, public and private research R&D institutes and other public support agencies. In addition, firms can learn the technological capability of foreign technology suppliers and/or partners by actively networking with them (Mytelka and Tesfachew, 1998).

Technology involves knowledge about doing things – production of both goods and services. Scientific methods are employed in building up technological knowledge (for example, as described in books or through experimental testing; this may take place outside the production process). This is contrasted with craft knowledge, which tends to be part and parcel of production and is defined and communicated through skills. Its scientific nature makes it a part of codification. In production, uncoded knowledge is important. Today’s knowledge is tacit and technology tries to codify it, to study it and improve upon it. Another implication of codification is the need for people working with technology to be educated (Arnold and Thuriaux, 1997).

The term ‘technological capability’ was coined during research into intra-firm technological dynamics in the early 1980s (Caniëls and Romijn, 2004). Arnold and Thuriaux (1997) identify three interlinking and interdependent elements of capabilities – strategic capabilities, internal capabilities and external capabilities. At the strategic level, provision is made for intelligence or control mechanisms needed to enable firms to manage and exploit their capabilities through the market. This requires understanding of the knowledge needed for business success and the application of that knowledge for performance improvement by the entrepreneur. It also involves the need to understand the needs and desires of customers, technological opportunities, and the firm’s own capabilities and mesh them together. The internal capabilities relate to the ability of management in:

- identifying and investing in the right physical infrastructure in order to meet the firm’s competitive requirement;
- analysing its situations, identifying and putting in place the needed skills;
- organising appropriately, and having the vision to understand when change is needed in the organisation.

Figure 4.1
Key elements of technological capability



Source: Arnold and Thuriaux (1997: 17).

The external capabilities involve management of the relationship between the firm and the needed outside resources. This is related to networking. 'If contemporary writers are correct that networking is central to the innovation process, then the ability to network must itself be a crucial capability. This means, then, making use of external knowledge, using partners to access complementary assets and managing the producer/user relationship...' (Arnold and Thuriaux, 1997: 18). Arnold and Thuriaux find internal capabilities and external linkages being subsumed in the term 'network' and also regard tacit knowledge as forming a key part of a firm's distributed intelligence, or technological capability. Their key elements of technological capability are presented in Figure 4.1.

Best (2000) uses the concept of a capability triad, made up of the business model, production capabilities and skill formation, which need to be synchronised as part of the growth process. Entrepreneurial firms are the basis of the business model, which is based on product-led competition not price-led competition. Businesses are required to go beyond merely delivering products or services that are better or cheaper than those of their rivals in order to remain competitive; they must also improve performance, reduce processes more quickly and be faster in launching new lines. They also need to create an entirely new market in order to grow. Thus, entrepreneurial firms are distinguished by their focus on product-led competition. They operate high-performance work systems, compress new product development cycle times, and focus on core capabilities. In short,

...the goal of the entrepreneurial firm is to develop the organisational capabilities to differentiate the firm's product in the market place and establish ongoing relationship with customers. Success requires product development, technology management and innovation capabilities. To the extent that firms are successful, the mode of competition shifts from price-led to product-led. (Best, 2000: xi)

It is not useful to ignore the mediating role of capabilities in attempting an explanation of productivity and competitive advantage solely in terms of measures of factor inputs. Production capabilities are indispensable and there is no way to separate a firm's capabilities strategy from its production systems. Production capability is a distinguishing feature of an entrepreneurial firm; for firms will be frustrated if they only aim at developing new products in order to gain competitive advantage without integrating manufacturing and design into their production systems. Skill formation, the third element of the capability triad, deals with the importance of having people with the requisite technological skills, which calls for investment in technical education, and skill formation in the workplace. Two other capabilities identified are unique capabilities and generic capabilities. Unique capabilities determine the profitability and form the basis of competitive advantage. Generic capabilities include technology management capabilities that can diffuse across firms.

Underpinning technological capability is innovation, which is the acid test for all entrepreneurs. Technological capability enables firms to innovate, fit into the competitive and dynamic environment, and gain a competitive edge over others. Innovation occurs in a particular socio-eco-

conomic milieu and needs to be contextualised; it is not a straight-jacket prescription that fits every circumstance.

Technology is beyond a 'black box' or turn-key project. Four hierarchies of technological capabilities are identified and firms are expected to 'move as far towards an 'unboxed' understanding as needed to generate and sustain competitive advantage' (Arnold and Thuriaux, 1997: 19):

- 'Black Box' – relates to the acquisition of turnkey technology, which does not require deeper understanding of that technology;
- 'Grey Box' – relates to minimum capability required to make applications-based adaptation;
- 'White Box' – concerns the 'ability to make incremental improvements to the technology itself, as well as its applications';
- 'Unboxed Box' – this is at the end of the continuum and relates to 'the ability of firms to develop significantly new variants or innovations'

Technology will fail to work if transferred into contexts for which it is not fitted. Innovation is not always dependent on technology, but on the application of research (scientific or technological) results, better ergonomics, improvement in product packaging design and 'copying' the ideas of other producers elsewhere (Arnold and Thuriaux, 1997: 2, 3). Teece (1986) defines innovation in terms of technical knowledge regarding doing things better than 'the existing state of art'.

With regard to the importance of the software component of technology, Appleton indicates that the technological innovation process is crucial in empowering people by building on their confidence and raising their status as well as improving technical capacity, which in turn can produce fresh solutions and activities to support technical choice and innovation. These activities include identification of problems, experimentation and sharing of information, which can be strengthened through human resource development programmes such as training. Appleton defines technical innovation as 'any changes, however small, in the skills, techniques, processes, equipment, type or organisation of production that enables people to cope better with or take advantage of particular circumstances' (Appleton, 1994: 6). She criticises reliance of SME projects on supply of imported equipment since it reduces the technical capacities of entrepreneurs. She considers technical capacity to be an important indicator of the strength and potential of enterprise and technical capacity building and support as an important element in enabling sustainability (Appleton, 1994: 12).

Malecki (1991: 287) regards local informal skills and learning by doing as more important than research and development in mastering imported technology. According to Malecki, the 'linear model of technological change' or the 'bucket brigade' linear process, which has even been abandoned by large enterprises because of its slowness and inefficiency, is also inapplicable to the enterprises of the graduates in this study. This is where 'someone in the research lab comes up with an idea. Then it is passed on to the engineering department, which converts it into a design. Next, manufacturing gets specifications from engineering and figures out how to make the thing. At last, responsibility for the finished product is dumped on marketing.' The model suggests that the standard or the predominant innovation path is the sequence from basic and applied research through to product and process development to production and finally diffusion and marketing (Malecki, 1991: 115). Furthermore, research and development capability is not enough; firms also require production engineering skills and network of information concerning competitors, among others, to succeed. In other words, 'R&D is necessary for competitiveness, but once again, is not sufficient to bring about mastery over all the facets of competition' (Malecki, 2001: 201). Lall (2002: 154) finds that 'at the lowest end of the technological spectrum, simple literacy and some vocational training, complemented by a few higher-level technical skills, may be sufficient to ensure adequate TCs [technological capabilities]' (Lall, 2002: 154).

Baldwin and Gellatly (2003) also acknowledge that some studies have questioned the significance of the linear R&D models when discussing innovation in small firms. Therefore, there has been a shift from the 'unidimensional, R&D-centric approaches' towards greater focus on the diversity of internal activities that go on in innovative firms as well as the complexity of their external networks helping to shape their innovative process.

The technological capability approach has been criticised for not paying attention to geographical agglomeration, not accounting for the inherent advantages, which include learning as well as growth that are to be found in clusters. Measures of conventional technological capabilities become potentially more effective when supplemented by policies to influence firms that are engaged in complementary and similar activities to co-locate (Caniëls and Romijn, 2004: 147).

4.2.3 Conclusion

The strengths and weaknesses of each of the theories make it reasonable to hybridise because of the synergistic effects which are likely to ensue. The competence theory of the firm focuses mostly on building the firm's internal competencies and contributes to the understanding of how the firm's management deploys and coordinates individual knowledge into the firm's knowledge as a competitive weapon. The technological capability theory, unlike the competence theory of the firm, does not limit itself to building the firm's competencies by endogenous means; it also links up with the firm's external environment through networking for innovation purposes. The competence theory of the firm and the technological capability theory overlap in the sense that they both identify competencies and capabilities as necessary for successful business operations.

The current business management thinking pays attention to multi-tasking or multi-skilling, where an individual has to perform various job functions which hitherto had to be done by more than one person; division of labour has given way to division of functions. The competence and the technological capability theories are a challenge to the enterprises being studied because some of them are owned by own-account workers who may have no one to exchange ideas with within their enterprises. Does their tacit knowledge give them an advantage over entrepreneurs because they serve as the repository of their enterprise's knowledge and therefore make it more difficult for an outsider to gain access to that knowledge unless they disclose it themselves?

4.2.4 Competencies in SME Development in the South

This section focuses on competence or capabilities in SME development in Ghana in particular and some other countries in the South. The geographical focus is important because factors that influence SME development in the South may differ from those that have an effect in countries in the North. Similarly, the competencies required for the development of large enterprises may differ from those needed for SMEs.

Oyelaran-Oyeyinka (2006) indicates that the technical objectives pursued by firms in developing economies are different from those in developed nations. Ability to successfully install an operating system at the least possible cost is the most important objective of the firm and it needs both internal and external skills and knowledge resources to do so. The knowledge and skills are needed for identification, selection, purchasing,

installation and commissioning of a system. Knowledge and skills are directly related to complexity of technology; when the latter increases, the former increase as well. At some time, investment capability (that is, skills different from design knowledge) is needed to commission a plant successfully. This capability includes searching, sourcing, negotiating, scheduling of investment and erection and civil construction (Oyeleran-Oyeyinka, 2006: 66).

A feasibility study on motor rewinding in Ghana carried out in eight centres found up to 30% efficiency loss when a motor is rewound due to lack of technical expertise at motor repair shops. The bulk of the motors used in Ghana are smaller ones, of 1-15 hp. Large motors of over 200 hp are common in industries with significant energy consumption. The authors found that generally there were inconsistencies in repair techniques employed in the workshops they studied. Often, no information was available about the operating efficiency of the motor to the user after repairs and return to service despite the existence of several techniques to enable shops to perform some basic tests and develop enough information for a new name plate to be prepared and attached to the motor.

In short, there is no doubt that the electric motor repair shops need to update their position with improved technology, as well as access to reasonably-priced materials. They also need equipment to test their products, facilities to improve their repair jobs, efficiency test beds, the ability to conduct value-added services, and the capability to replace old motors with high-efficiency motors (Hsu et al., 1999: 9).

There is also a high level of inefficiency in the Ghanaian wood industry by international standards. Timber yield efficiency in Ghanaian firms is at a quarter of that found in international best practice firms:

...in the first stage of processing, when the tree is felled, only about 45-66 percent of the tree trunk actually reaches the saw mill, compared with 80 percent in Europe and Asia. In the second stage of processing, when the log is cut into useable boards, there is a further yield loss. Typically, Ghanaian factories convert only 16-23 percent of the useable boards into finished products compared with 48 percent in international best practice firms. Efficiency losses increase further as processing moves downstream to furniture and furniture parts. Ghanaian production methods result in a great deal of off-cuts and other waste materials, which are not optimally reused as they would be in more efficient production systems. After all stages of processing, only about 7-10 percent of gross log volume is converted into

finished products in Ghana compared with 34 percent in best-practice firms (World Bank, 2001: 19).

In conclusion, technical and managerial competencies are necessary for competition. Firms in Ghana are found wanting in this regard, due to the inefficiency of their operations, for example in the motor rewinding and wood industries.

4.2.5 General and Specific Competencies

The literature emphasises three vital competencies: technical, management and marketing. Drucker (1977: 98), for example, refers to product innovation, managerial innovation and social innovation, which respectively represent the three competencies.⁴ Product innovation is innovation in products or services; social innovation is innovation in the marketplace and consumer behaviour and values; and managerial innovation is innovation in the various skills and activities needed to make the products and develop the services and to bring them to market. Mytelka and Tesfachew (1998: 3-4) identify continuous improvement in processes, products, management routines and customer service as a means of sustaining competition. Liedholm and Mead (1987) describe the non-financial direct assistance given to small firms in terms of the three competencies. Technical/production area assistance has been in the form of advice on processes, design of products, tools, equipment, machines, quality control and plant layout. Management assistance takes the form of bookkeeping, accounting, auditing, production planning, inventory, capital budgets, and so on. Marketing assistance is in the form of advice on packaging, merchandising, product demand, raw material procurement, emporia sales and displays at home and abroad, collection centres, sales on consignment, export services and credit insurance.

According to Christensen (1996: 114) the technical dimension is the ability of the firm to perform any relevant technical function or value activity; for example, the ability to develop new products and processes and to operate facilities effectively. Van den Bosch and Van Wijk (2001: 172), writing from a competence perspective, define managerial competence as 'a collective ability of managers to lead an organisation's competence building and leveraging by sustaining their *own* coordinated deployments of managerial resources, managerial knowledge, and managerial capabilities in ways that help their organisation achieve its near-term and long-term goals.' They draw attention to the role of management in organisational competence because managerial knowledge

has been relatively unrecognised and unexpected in the creation of sustainable competitive advantage,. The attention of management scholars to knowledge resources and creation as primary sources of competitive advantage have to do with the quest to explain the competitive success of firms (Van den Bosch and Van Wijk, 2001). Management skills are vital for the survival and growth of micro and small businesses (ILO, 2003a: 45) and central to the survival and growth of enterprises in general (OECD, 2003).

A firm's need to dispose of goods and services produced by it makes it imperative for it to build up the internal marketing competencies needed to exceed its customers' expectations (that is, to delight their customers). Tsoukas and Mylonopoulos (2004: 22) advocate that instead of aiming at providing customers with customised services, firms should make them co-creators of products and services by blending their ideas with the knowledge resources of firms. 'Since the days when Henry Ford gave customers a choice of any colour so long as it was black, companies in all industries have been increasingly parting from treating clients en masse with an 'I make it – you buy it' approach, to incorporating them in the design of their value propositions' (Anyfioti et al., 2004: 276). Customers are no longer 'passive receivers' of standard products of firms but are emerging as 'active value creators' who often interact with companies. They have the opportunity to obtain 'exactly that' and not 'close to' their expectation. They are also eager to become acquainted with firms' products and to direct what firms should produce precisely (Anyfioti et al., 2004). Thus, customers or clients are important sources of enterprise knowledge; they are indispensable in decisions regarding the product put on the market for their consumption and are now more than mere price-takers. A firm, therefore, needs marketing competencies to map out highly effective marketing strategies. Kyambelesa (1993) finds managerial competency crucial for enterprise success: 'The long-term success and survival of any given organisation is particularly contingent upon the level of competence and effectiveness of its managerial personnel' (Kyambelesa, 1993: 23).

An entrepreneur has three types of qualities: managerial, technical and entrepreneurial versatility. Managerial and technical qualities are basically about administrative and technical competence whereas entrepreneurial quality is about the imagination and vision. Although entrepreneurial ideas are inherently not 'practical', they are equally useless 'if they are commonplace and short-sighted', and firms with 'dull' entrepre-

neurs are restricted in their growth. Smaller firms in particular tend to have an extremely limited horizon.

Content with doing a good job in his own field, the less enterprising entrepreneur may never even consider the wider possibilities that would lie within his reach if only he raised his head to be seen. If occasionally he gets a glimpse of them, he may lack the daring or the ambition to reach for them, although he may be an ambitious, efficient, and successful producer in his chosen field or chosen geographical location (Penrose, 1980: 37).

Mulu-Mutuku (2001) identifies three components essential for successful enterprise operation: technical skills, managerial skills and entrepreneurial risks. Here, management skills are defined to include marketing skills. According to Mulu-Mutuku (2001), technical skills play the least role in facilitating entry into self-employment, but they become inadequate as the business develops. By inference, this is not the case with management skills, because

Lack of management competency has been found to be a major contributing factor in small enterprise failure. Managerial skills are needed to keep a business running...Good management, especially the basics of booking, product costing and organisation of work, is essential to a well-functioning enterprise. Beyond the basics, there seems to be little relationship between specific management skills and business success (Mulu-Mutuku, 2001: 143).

Baldwin and Gellatly (2003) examine the relationship between differences in new small firms' strategic stance and performance outcomes. They investigate two issues: identification of competencies that help to distinguish surviving firms from failed ones and competencies that separate high-performing firms from less successful ones. Regarding the second issue, they concentrate on changes in three variables – productivity, profitability and market share – and establish that high-growth firms develop a sharper strategic stance in marketing, management, human resources and financing. They attribute failure of firms to internal deficiencies in core business areas like management, financing and marketing. The specific causes range from lack of management knowledge to failure to keep books appropriately and find an appropriate business location.

Rauch (2000) reports similar finding while studying the relationship between SMEs' success and personality characteristics, human capital (knowledge and skills), planning, human resources (developing skills and knowledge in a firm), and environmental conditions. Five success criteria

or measures that were employed in the study were growth and size of the enterprise (where growth is defined as the increase or decrease in the number of employees during the last three years); size of the business (defined as consisting of the number of employees and the amount of sales); the entrepreneur's income and satisfaction with the work; and the entrepreneurs' own judgement about their business success (Rauch, 2000: 58). Rauch found that business goals and strategies were of central significance for business success and what led to success was 'the right way' of planning, human resource management, and action goals and plans.

Enelow (2008) also buttresses the importance of competencies, especially general ones.

Succeeding as an entrepreneur requires that you develop a wealth of skills and competencies well beyond just the product or service that you're delivering to your customers. It's not enough to be a great mechanical engineer who is starting a machine shop. You must also be a bookkeeper, salesperson, customer-service representative, purchasing agent, inventory clerk, quality inspector, administrator, and much more.

Every entrepreneur – at least at the start of any entrepreneurial venture – must wear many hats and be responsible for a numerous business functions. (Enelow, 2008: 4)

Analysing small-scale enterprise efficiency, Liedholm and Mead (1987) found that more than 40% of successful entrants ascribe their success partly to strategies that stress quality, customer service, flexibility in responding to customer needs, and product customisation.

In sum, technical, management and marketing competencies stand out as the three critical competencies firms need to be efficient and competitive. They cut across every function of an organisation and affect all organisational resources. The literature is not clear whether the three together are sufficient and absence of one or two results in insufficiency or inefficiency. However, what stands out is that technical competence is necessary but not sufficient, while general (marketing and management) competencies appear to be the key factors which influence the success, survival and growth of an enterprise.

4.3 Quality Competition as a Concept

In recent years, approaches like total quality management and International Standards Organisation certification have been used to enhance

quality throughout the production process in various organisations. Enterprises of all sizes have seen the need to rely on quality services and products to gain a competitive edge in local and global markets. Inherent advantages in competitive markets include efficient allocation of resources, maintenance of consumer choice, promotion of technological innovation, and autonomy of industrial enterprises, which are believed to be important for economic progress in the long run (Young and Metcalfe, 2002: 45).

Theories and views of the nature of competition vary. For example, the neoclassical perspective is different from that of the Austrian School. The neoclassical economist looks at perfect competition – zero super-normal profits and free entry and exit. In this competition, firms possessing market power to some degree and having the ability to influence the market price are considered as distorting resource allocation from a socially optimal position (Young and Metcalfe, 2002). The Austrian School stresses the ‘process’ nature of competition; that is, it regards competition as a process of entrepreneurial rivalry with entrepreneurs being ‘alert to profit opportunities’ (Young and Metcalfe, 2002: 46-7). The Austrian School views profit as a reflection of the ‘superior firm-specific competence’. It also emphasises the issue of innovation. This is in contrast to the contention that super-normal profits come from monopoly power of firms.

At the core of a firm’s success or failure is competition (Porter, 2008). It is competition that determines the appropriateness of the activities of a firm – for example, innovations, a cohesive culture or good implementation. Porter defines competitive strategy as the search in an industry for a favourable competitive position aimed at establishing a profitable and sustainable position against the forces determining competition in that industry.⁵ The industry structure is the driver of competition and profitability, not whether an industry is mature or emerging, low or high tech, unregulated or regulated and produces a service or a product (Porter, 2008: 80).

Foss observes that the contemporary notion of specialisation with its emphasis on competence is different from what existed at the time of Adam Smith, when the emphasis was rather on products:

...competitive success cannot rest on anything as fleeting as products or strategic business units; rather, it must be founded on something deeper – namely the knowledge capital in the form of competencies that allow a firm to spawn new unanticipated products. The cultivation and manage-

ment of synergistic learning process in the firm therefore become key in this process. Strategy is about stretching knowledge assets and applying these to new areas (Foss, 1996a: 4).

Thus, the firm's specialisation is in terms of competence and not products. Whereas managerial practice is seen as a firm's more permanent feature, products and strategic business units are perceived as being more transitory.

Quality has become a competitive weapon. According to Hoyle (1998: 5):

The word *quality* has many meanings: a degree of excellence, conformance with requirements, the totality of characteristics of an entity that bears on its ability to satisfy stated or implied needs, fitness for use, freedom from defects, imperfections or contamination, and (a phrase which is gaining popularity) delighting customers.

Competition is said to be rife in every organisation – for example, competition for customers, resources and funds. The reputation of an organisation is built by quality, reliability, price and delivery. Of these competitive weapons, quality is recognised as the most important. It is a weapon that companies in some advanced nations have used strategically to become competitive and win customers.

We have known for years that consumers place a higher value on quality than on loyalty to home-based producers, and price is often not the major determining factor in consumer choice. Price has been replaced by quality, and this is true in industrial, service, hospitality, and many other markets (Oakland, 2000: 18).

According to Oakland, quality is meeting customer requirements and is not restricted to the product or service's functional characteristics.

Related to quality is the concept of total quality management (TQM),⁶ which is one of the approaches through which a firm can position itself better in the market. TQM aims at improving the competitiveness, effectiveness and flexibility of an entire organisation. Essentially, it is a way of planning, organising and also understanding each activity and depends on every individual at each of the levels of an organisation. All employees of an organisation are to be concerned with the quality policy and the TQM principles and objectives are to be communicated to them. Waste is avoided as people are brought together into the improvement process, thereby achieving results in less time. The TQM methods and techniques are applicable to all organisations (Oakland, 2000).

For Bank (1992), quality is achieved when the agreed customer requirements are fully satisfied at the lowest internal price or when there is *conformance to specification*. He defines total quality management as

an approach to business which looks critically at the products and services a company produces in relation to the processes it takes to create them and the people who do the work to make certain that outputs fully satisfy agreed customer requirements....The approach is called 'total' because it encompasses everything the company does – all the processes, and all of its employees at every level in the company all the time. It is restless approach since it aims at continuous improvement, the elimination of waste and costs, and the strengthening of loyal relationships with suppliers and customers (Bank, 1992: xv-xvi).

The employees of the organisation, referred to as internal customers, are seen as important as the organisation's external customer for creating the quality chain in reaching out to the consumer.

The TQM message has empowered Japanese managers and given them the quality vehicle to establish supremacy in global trade. In virtually all sectors of their economy, the Japanese are known to have sold their products on quality and price. Besides, they have also perfected continuous improvement. Companies who meet customer requirements win 'repeat business'. Bank (1992) identifies five dimensions of quality that bring satisfaction to the customer:

1. Specification – what can I expect when I buy your product?
2. Conformance – is it what I expected?
3. Reliability – does it continue to do what I expected?
4. Cost (value) – how much do I have to pay?
5. Delivery – when can I have it?

Hoyle (1998: 19) refers to a firm's attempts to meet the International Standards Organisation's quality certification requirements as action that is taken throughout an organisation in order to increase the effectiveness of its activities and processes for its own added benefits and that of the customers. It is simply anything that causes a 'beneficial change in quality performance.' Quality performance can be brought about by 'better control' and 'raising standards'. He notes, 'We don't have suitable words to define these two concepts.' He lists the following definitions to help provide an understanding of the process:

- Improvement – doing something new
- Improvement – when change is gradual (by Imai)

- Innovation – when change is radical (by Imai)
- Control – maintaining standards (by Juran)
- Breakthrough – achieving new standards (by Juran)
- Reengineering – when change is radical (by Hammer)
- Kaizen – (by the Japanese)

The only sustainable source of competitive advantage in the long run is the ability of the organisation to learn faster than its competitors (Senge, 1994). Nonaka and Takeuchi (1995) offer the following explanation for the success of Japanese firms in the face of global competition:

We argue that the success of Japanese companies is not due to their manufacturing prowess; access to cheap capital; close and cooperative relationships with customers, suppliers, and government agencies; or lifetime employment, seniority system, and other human resources management practices – although all of these factors, of course, are important. Instead, we make the claim that Japanese companies have been successful because of their skills and expertise at ‘organizational knowledge creation.’ By organizational knowledge creation we mean the capability of a company as a whole to create new knowledge, disseminate it throughout the organization, and embody it in products, services, and systems. Organizational knowledge creation is the key to the distinctive ways that Japanese companies innovate. They are especially good at bringing innovation continuously, incrementally and spirally (Nonaka and Takeuchi, 1995: 3).

It was their fear of losing out as well as their hope of catching up that drove the companies to anticipate and come up with new technology, products, production processes, marketing and forms of distribution. (Nonaka and Takeuchi, 1995)

In conclusion, the dynamic business environment compels firms not only to change their strategies when the situation changes (being reactive) but also to tread into areas where they and others have never gone before (being proactive). With increasing advancement in technology, firms need to open up to meet the associated challenges in order to stay in business; the key to this is quality– quality inputs, quality processes and eventually quality products and services. Of considerable significance to quality competition is the need for firms to learn.

Table 4.1
Competencies, tasks and operationalisation

Competency	Specific Competency (Task)	Definition
Marketing	1. Carving a niche	1. Able to study the market and produce new products/services or add value to existing ones
	2. Promotional activities	2. Making the business known through the use of signboards, business cards, leaflets, flyers, brochures, etc.
	3. Personal contact	3. Seizing opportunity to introduce business to people
Management	1. Job deadline	1. Meeting the deadline for delivery of the product or completion of service for the customer
	2. Business account	2. Having opened an account for the business
	3. Separate account	3. Operating separate personal and business funds
	4. Receipts demanding	4. Insisting on collecting receipts covering business transactions (e.g. from a supplier), if the transacting party has them.
	5. Receipts issuing	5. Issuing receipts to transacting party for payments
	6. Transactions recording	6. Record of transactions that are not covered by receipts. The petty cash/imprest system takes care of it.
ICT	1. User Requirement Specification	1. A document signifying mutual agreement between the client and software developer, detailing the expected output.
	2. Functionality testing	2. Verification made to ensure the system performs and functions in accordance with the desired output
	3. Stress testing	3. Subjecting the system to the highest maximum load for determination of its stability and correction of bugs.
Electrical Rewinding	1. Direct current motors	1. Ability to work on direct current (DC) machines
	2. Motor speed	2. Checking the speed of the motor
	3. Bearing noise	3. Checking if bearings are making noise
	4. Wire thickness	4. Checking the size of the coil to be used
General Electrical	1. Touching wires	1. Performing this test
	2. Earth/Ground system	2. Performing this test
	3. Phasing	3. Performing this test
	4. Continuity test	4. Performing this test
	5. Phase sequence	5. Performing this test
Tailoring & Dressmaking	1. Sewing and continuous ironing	1. Ironing important part of the garment while sewing rather than deferring the ironing till sewing is completed.
	2. Ironing with press piece	2. Using press while ironing to protect fabric's texture
	3. Garment fitting	3. Ensuring customers try on their garments for the necessary corrections before final delivery
Carpentry & Joinery	1. Wood treatment	1. Treating wood to ensure its durability, etc
	2. Wood seasoning	2. Seasoning wood to avoid warping, etc

4.4 Methodological Approach to Identifying and Measuring Competencies

In this study, competencies have been compiled from the field. The compilation comprised three stages. In the first stage, key informants in the five sectors of the study were interviewed on technical, management and marketing competencies that they deemed necessary for enterprise success. Three people were interviewed for comprehensive information on the competencies for each sector. Each interview was first recorded and then transcribed. The data gathered on each sector were synthesised, printed and given to each of the key informants in accordance with their sector for further comments and fine-tuning. The final comments were then used for the development of the competency component of the data collection instruments. It turned out that the management and marketing competencies were common to all the sectors, so they were designated as general competencies. It is possible that there might be no management and marketing competencies unique to a particular firm or sector as most of them deal with people in the same market and also might not face the complexity of managerial challenges that larger enterprises encounter. The technical competencies are unique to their respective sectors, so they were designated sector-specific competencies. To facilitate the analysis, the activities that make up the broad competencies are referred to as competency tasks. Since there were many tasks, only the critical and basic ones were used in interviews.⁷ They were defined in specific measurable terms to aid coding and scoring as shown in Table 4.1.

4.4.1 Competency Scores, Indices and Levels

Determination of the levels of competence requires first the computation of the various scores. In computing the scores, the Competency Model is constructed. For the general competencies, that is marketing and management the score for not practising each competency task is zero (0) and for practising is one (1). For the sector-specific competency tasks, the scores are zero (0) for not practising a competency task, one (1) for practising the competency task occasionally, two (2) for practising the competency task often, and three (3) for practising the competency task always, where *occasionally* means using a particular competency in less than 50% of jobs that require it, *often* means using a particular competency in at least 50% of jobs that require it, and *always* means using a particular competency whenever a job requires it.

The relative weighting of each competency is taken into account in developing this model. However, in this thesis the weighting for each competency was normalised since there was no *a priori* justification for according some tasks or competencies more prominence than others.

Equation (1) is the sum of all the points scored for various tasks within a particular competency, where the minimum value is equal to zero (0) and the maximum value is the maximum score that has been set within a competency. In Equation (2), the scores gathered in Equation (1) are translated into an index for each competency. Equation (3) is a combined competency index for a number of competencies. In combining various competency indexes, their relative weighting is taken into account. These three steps, Equations (1), (2) and (3), could be applied to any detailed competency index calculation⁸.

Competency Model

The Score of Competency (SC) could be represented as:

$$SC_n = \sum_{j=n \text{ Min value}}^{j=n \text{ Max value}} Pt_{jn} \quad \text{Equation (1)}$$

Where:

- n = is any of the competencies in the study, namely, Marketing (k), Management (m) and Technical (t).
- Pt_{jn} = Point for task j in competency n .
- n Min value = Minimum point for competency task of n
- n Max value = Maximum point for competency task of n .

Thus:

Score of Competency in Marketing (SC_k) is:

$$SC_k = \sum_{j=0}^{j=3} Pt_{jk} \quad \text{Equation (1)}$$

Score of Competency in Management (SC_m) is:

$$SC_m = \sum_{j=0}^{j=6} Pt_{jm} \quad \text{Equation (1b)}$$

Score of Competency in Technical (SC_t) is:

$$SC_t = \sum_{j=0}^{j=17} Pt_{Tj} \quad \text{Equation (1c)}$$

The Competency Index (CI_n) for a particular competency is represented as:

$$CI_n = (SC_n / Pt_{Tjn}) * 100\% \quad \text{Equation (2)}$$

Where:

Pt_{Tjn} = the total point for task j in competency n .

n = is any of the competencies in the study, namely,
Marketing (k), Management (m) and Technical (t)

Applying the above model to each competency:

Competency Index in Marketing (k) is:

$$CI_k = (SC_k / Pt_{Tjk}) * 100\% \quad \text{Equation (2a)}$$

Competency Index in Management (m) is:

$$CI_m = (SC_m / Pt_{Tjm}) * 100\% \quad \text{Equation (2b)}$$

Competency Index in Technical (t) is:

$$CI_t = (SC_t / Pt_{Tjt}) * 100\% \quad \text{Equation (2c)}$$

The Combined Competency Index (CI_i) is therefore the sum of the various Competency Indexes (CI_n) (Equations 1, 2 and 3) multiplied by the weighting (WC_i) of each competency as reflected in their relative importance.

$$CI_i = \{[(SC_1 / Pt_{Tj1}) * WC_1] + [(SC_2 / Pt_{Tj2}) * WC_2] + [(SC_3 / Pt_{Tj3}) * WC_3] + \dots + [(SC_i / Pt_{Tji}) * WC_i]\} \quad \text{Equation (3)}$$

Multiply the Combined Competency Index (CI_i) by 100% to express the value in percentage.

Where:

SC_i = score of competency

Pt_{Tji} = total point for task j in competency i .

WC_i = percentage weighting of competency i .

i = number of competencies.

Apply equation (3) to this research:

$$CI_{kmt} = \{[(SC_k / Pt_{Tjk}) * WC_k] + [(SC_m / Pt_{Tjm}) * WC_m] + [(SC_t / Pt_{Tjt}) * WC_t]\} * 100\% \quad \text{Equation (3a)}$$

Where:

CI_{kmt} = competency index in marketing, management and technical

k = marketing competency

m = management competency

t = technical competency

After calculating the competency scores, the competence levels were determined. The use of the standard deviation helped in deciding whether to use the mean or the median as the cut-off point. With the standard deviation being more than one, the mean was inappropriate and so the median was used as the cut-off point for distinguishing the less competent from the more competent enterprises.

As can be seen in Table 4.2, the same proportion of graduates was less and more competent when all the three competencies were together; virtually the same picture emerged for general competencies. This is also the case with Tailoring & Dressmaking and the Carpentry & Joinery graduates. For the rest of the competencies, a larger proportion of the graduates was less competent than the more competent ones. Only a fifth of the graduates, especially those in ICT, were more competent.

Table 4.2
Competencies by competence levels

Competency	Competence Levels	Total
Marketing ^a	Less Competent	69 (57.0%)
	More Competent	52 (43.0%)
Management ^a	Less Competent	67 (55.4%)
	More Competent	54 (44.6%)
Technical	Less Competent	66 (54.5%)
	More Competent	55 (45.5%)
ICT	Less Competent	16 (80.0%)
	More Competent	4 (20.0%)
Electrical Rewinding	Less Competent	9 (60.0%)
	More Competent	6 (40.0%)
General Electrical	Less Competent	12 (41.4%)
	More Competent	17 (58.6%)
Tailoring & Dressmaking	Less Competent	15 (50.0%)
	More Competent	15 (50.0%)
Carpentry & Joinery	Less Competent	14 (51.9%)
	More Competent	13 (48.1%)
General (Marketing & Management)	Less Competent	61 (50.4%)
	More Competent	60 (49.6%)
Technical, Marketing & Management	Less Competent	61 (50.4%)
	More Competent	60 (49.6%)

^a The less and more competent graduates in marketing have scores up to the median (66.67%) and greater than the median respectively. The less and more successful graduates have scores up to the 50 (33.33%) and up to 50 (66.67%) respectively.

4.5 Methodological Approach to Defining and Measuring Enterprise Success

Different criteria are used in the literature because what constitutes success itself is subjective. According to Khera (1998: 44), '[T]o some people, success might mean wealth. To others, it is recognition, good health, good family, happiness, satisfaction, and peace of mind.... Success is subjective. It can mean different things to different people.' He defines success as 'the progressive realisation of a worthy goal.'

4.5.1 Enterprises' Definition of Success

In this study, the graduates' own conception of enterprise success is considered very important in assessing their performance, instead of the traditional financial ratios such as liquidity, efficiency, profitability and leverage (capital gearing) which are applicable to large enterprises and meaningful to their stakeholders and which were not possible to obtain or construct.

Table 4.3
Rating of success indicators

Success Indicators	1 st Indicator	2 nd Indicator	3 rd Indicator	Multiple Responses
Number of Customers	48 (39.7%)	39 (32.2%)	20 (16.5%)	107 (29.5%)
Level of Profit	37 (30.6%)	35 (28.9%)	23 (19.0%)	95 (26.2%)
Business Expansion Assets	26 (21.5%)	32 (26.4%)	43 (35.5%)	101 (27.8%)
Number of Employees	-	2 (1.7%)	9 (7.4%)	11 (3.0%)
Fulfilment of Responsibilities	10 (8.3%)	13 (10.7%)	26 (21.5%)	49 (13.5%)
Total	121 (100.0%)	121 (100.0%)	121 (100.0%)	363 (100.0%)

Each graduate was asked to select three out of five success indicators (in addition to the option of giving their own) that they considered to be their criteria for assessing their enterprises' success and rate them in order of importance.⁹ These indicators were the first five that were obtained from the pilot study that preceded the study. Their ratings are as shown in Table 4.3.

Most of the graduates' multiple response, defined their success indicators as increase in the number of customers, followed by business expansion, increase in the level of profit, ability to fulfil personal and family responsibilities, and increase in the number of employees. By definition, an increase in the number of employees may form part of business expansion (as explained by some of them in the next session on reasons for level of satisfaction, which could make business expansion the most important performance measure). However, the analysis was based on the number of customers and the level of profit. As shown in Table 4.3, of the five indicators, the number of customers emerged as the principal indicator of business success. Besides, a larger proportion of the respondents rated it as the first (39.7%) and second (32.2%) indicators of business success.

4.5.2 Enterprise Performance and Success Levels

Having zeroed in on the two success indicators, the next stage was to examine the enterprises' performance over the last 12 months in terms of changes (increase or same/decrease) in number of customers and level of profit. According to Harrington (1995) assessment of an enterprise's performance over 12 months is a short-term analysis; long-term analysis covers performance over the last five years.¹⁰ Short-term analysis can take two forms: short-term self-analysis and short-term competition analysis. The former, which is used in this study, compares an enterprise with where it was 12 months before and the latter compares its performance to the average of the top 10% of its competition.

Having been in existence for at least three years by the time of the interview, all the enterprises in the study are deemed successful. Thus, the changes in number of customers or level of profit are used to distinguish the less successful from the more successful enterprises. Without giving prominence to one indicator over the other for lack of an explanatory reason, a weight of one was assigned to each of the indicators. A score of 2 was assigned to those that had an increase in either the number of customers or level of profit, a score of 1 to those that had the same number of customers or level of profit, and zero to those that had a decrease in number of customers or level of profit. The total actual scores were computed and expressed as a percentage of the total score, after which the success levels were set using the same criterion applied in the case of the competencies.

Table 4.4
Changes in number of customers and level of profit

Success Indicator	Changes in Success Indicator			
	Increase	Same	Decreased	Total
Number of Customers	84 (69.4%)	9 (7.4%)	28 (23.1%)	121 (100.0%)
Level of Profit	81 (66.9%)	4 (3.3%)	36 (29.8%)	121 (100.0%)

As shown in Table 4.4, at least two-thirds of the graduates had an increase in the number of customers and level of profit. The profit increase is similar to that of Aryeetey et al. (1994: 81) who showed that about

60% of their enterprise sample had increased their profit over the previous years.¹¹

4.6 Relationship between Competence and Success

Baldwin and Gellatly (2003: 116) recommend determining the competencies that relate to business success by ascertaining the factors differentiating firms that have recently performed better from other firms. This study uses a different approach, relating their competence to their success.

By definition, for all competencies or success indicators any score up to the median stands for less competent or less successful and any score above that stands more competent or more successful. As shown in Table 4.5, a slightly larger percentage of the more competent enterprises in marketing are more successful than the less competent ones. The observed differences are statistically significant (0.014) at 5% significant level. In the case of management, even though a slightly larger proportion of the more competent enterprises are more successful than the less competent ones, the observed differences are not statistically significant (0.051) at 5% significant level. For general competencies, defined as both marketing and management competences, a larger proportion of the more competent enterprises are more successful than the less competent ones. The observed differences are statistically significant (0.017) at 5% significant level. Thus, management and marketing competencies complement each other. The specific marketing and management competencies are also analysed.¹²

Except for Tailoring & Dressmaking, where a larger proportion of the more competent enterprises are also more successful or vice versa, the picture is different in the rest of the sector. In ICT, none of the more competent enterprises is less successful and the less competent ones are both less and more successful. In the case of Electrical Rewinding, a large proportion of the enterprises that are less competent are either less or more successful. In General Electrical and Carpentry & Joinery, whereas a larger proportion of enterprises that are less competent are also more successful, a larger proportion of those that are also more competent are less successful. For all sectors, the observed differences are not statistically significant. This is not to say that technical competencies are not important; it may mean that business competition is not too keen and the

Table 4.5
Competence levels by success levels

Competence Level	Success Level			P-value
	Less Successful	More Successful	Total	
Marketing				*0.014
Less Competent	32 (72.7%)	37 (48.1%)	69 (57.0%)	
More Competent	12 (27.3%)	40 (51.9%)	52 (43.0%)	
Total	44 (36.4%)	77 (63.6%)	121 (100.0%)	
Management				
Less Competent	30 (68.2%)	37 (48.1%)	67 (55.4%)	
More Competent	14 (31.8%)	40 (51.9%)	54 (44.6%)	
Total	44 (36.4%)	77 (63.6%)	121 (100.0%)	
General (Marketing & Management)				*0.017
Less Competent	29 (65.9%)	32 (41.6%)	61 (50.4%)	
More Competent	15 (34.1%)	45 (58.4%)	60 (49.6%)	
Total	44 (36.4%)	77 (63.6%)	121 (100.0%)	
ICT				
Less Competent	5 (100.0%)	11 (73.3%)	16 (80.0%)	
More Competent	-	4 (26.7%)	4 (20.0%)	
Total	5 (25.0%)	15 (75.0%)	20 (100.0%)	
Electrical Rewinding				
Less Competent	3 (60.0%)	6 (60.0%)	9 (60.0%)	
More Competent	2 (40.0%)	4 (40.0%)	6 (40.0%)	
Total	5 (33.3%)	10 (66.7%)	15 (100.0%)	
General Electrical				
Less Competent	1 (12.5%)	11 (52.4%)	12 (41.4%)	
More Competent	7 (87.5%)	10 (47.6%)	17 (58.6%)	
Total	8 (27.6%)	21 (72.4%)	29 (100.0%)	
Tailoring & Dressmaking				
Less Competent	7 (53.8%)	8 (47.1%)	15 (50.0%)	
More Competent	6 (46.2%)	9 (52.9%)	15 (50.0%)	
Total	13 (43.3%)	17 (56.7%)	30 (100.0%)	
Carpentry & Joinery				
Less Competent	6 (46.2%)	8 (57.1%)	14 (51.9%)	
More Competent	7 (53.8%)	6 (42.9%)	13 (48.1%)	
Total	13 (48.1%)	14 (51.9%)	27 (100.0%)	
Marketing, Management & Technical				
Less Competent	24 (54.5%)	37 (48.1%)	61 (50.4%)	
More Competent	20 (45.5%)	40 (51.9%)	60 (49.6%)	
Total	44 (36.4%)	77 (63.6%)	121 (100.0%)	

*Significant of 0.05

Box 4.1*Views on technical competence and enterprise success*

E. Fiafor: Eric is of the view that technical competence has played a vital role in his enterprise. 'For me what has brought me very far is the technical competence; it helps you in getting the job. General management adds value to it. You can have the technical competence but if you don't manage effectively, you will kick yourself out of the market.' One needs management competencies to come up with a product or render service that is cost effective, take decisions and execute the job. As to why some of the graduates claim they have the competencies but are not *always* using them, Eric is of their view that money is the focus of such people. 'Those who do not practise the technical competence *always* are digging their own grave because indirectly they are collapsing their business and sooner than later, it is going to catch up on them. If you don't perform those tests to ensure that things are up to the standard and working properly, it is just a matter of time. The customers for now may accept anything from them, but over time they will notice the problems and start passing on the message to others. There are certain problems the customer may not see immediately; with time the customer will find out and start telling others who are in similar business and you will be found out.'

S. Sackey: 'I think the technical competence should bring the enterprise success. It is the technical competence that brings about the proficiency.' He claimed there was no need to perform the tests always once the problems with his installations had been fixed. 'We have a number of years that we realise there is going to be deterioration of wires and because we don't want to wait for those years come, we do the tests *occasionally* to find out the trend of the wires if some need to be changed.'

G. Hagan: 'For me all the three competencies play a vital role in enterprise success. The technical competencies are important; otherwise the clients will not appreciate your product. On one hand, if the general competencies are good but the technical competencies are not there, at the end of the day the clients will detect that you are giving them low-quality products. On the other hand, if the technical competence is there and management is not good it will be difficult taking care of the enterprise, knowing the need of personnel, and understanding what the technical team requires. Until recently, I have realised that the management competencies are equally important because you work so hard and at the end of the day if management is not very good, all your gains will just go through loss of employees or not being able to deal with the client properly. Your analysis is correct because a lot of people think the marketing is important but personally I don't believe that. From experience so far, I have realised that you could do all the marketing but at the end of the day, when people start realising that your product is not up to the standard that the marketing team claims or talk about, you start losing clients. People are becoming more and more enlightened so they begin to realise that you are giving them a product that is not up to standard. In Ghana, the perception of a lot of people is that you have to market often even if the product is not good. Once you are able to get people to buy, you will make money and become successful. This is the perception that people have developed. Some well-known international companies in IT abroad produce items with a lot of bugs in them and we know it.' Hagan concluded that the technical and the general management competencies should go hand in hand.

customers are not demanding, especially in the science-based sectors like ICT, Electrical Rewinding and General Electric. It can, therefore, be stated that the technical competence of the enterprises studied, unlike general competencies, is not a decisive factor in enterprise success. This implies that enterprise success is a function of general (management and marketing) competencies. A follow-up on these findings through telephone interviews with a few graduates yielded the responses presented in Box 4.1.

4.7 Conclusion

Today's business competition rests very much on quality, which makes competency learning key to success. This chapter set out to determine if there is a relationship between the graduates' competence and success levels. Performance of the enterprises was determined by comparing their competence and success levels using a threshold (any score up to the median stands for less competent or less successful and any score above that stands for more competent or more successful). This is somewhat different from Baldwin and Gellatly's (2003) proposition that we can determine the competencies that relate to business success by ascertaining the factors differentiating firms that have recently performed better from other firms. Whereas this study has conducted intra-firm analysis, theirs is an inter-firm analysis.

Experts who are business practitioners in the same sectors defined the technical (sector-specific) and the general (marketing and management) competencies necessary for enterprise success. Competency levels were ascertained by computing the competency scores and index, after applying a weight of one to every competency task based on the assumption that all the competencies were of equal importance. Different ratings were assigned to the technical and general competences. Technical competencies were based on their frequency of practice and scored from 0 to 3, whereas the general ones were based on whether a task was practised on not and scored 0 or 1. The scoring differences, however, did not affect the results. The scoring of the technical competencies indicates that awareness or knowledge of a competency differs from (attitude of) practising it. By default, all the enterprises were deemed successful for being in operation for at least three consecutive years.

The graduates' own conception of enterprise success was used as the measure, instead of the traditional measures of accounting ratios that

normally apply to large enterprises. The most important success measure is the number of customers. Level of profit is the next indicator. With this, it was possible to ascertain the changes that had taken place over one year, which according to Harrington (1995) is a short term self-analysis. The approach of using the graduates to define their own measure of success is related to but different from the method employed by Rauch (2000) who used five broad success measures with the entrepreneurs' own judgement about their business success as one. The others are the number of employees, amount of sales, income and work satisfaction.

This research also found that the decisive factor in enterprise success is not technical competence but the management and the marketing competencies, implying that success is a function of management and marketing competencies. In a way, this confirms Mulu-Mutuku's (2001) finding that management competencies are essential for preventing enterprise failure, and daily running of business; technical competencies become important when the enterprise develops. The finding also confirm Liedholm and Mead (1987), Kyambelesa (1993), Rauch (2000), ILO (2003a), OECD (2003) and Baldwin and Gellatly (2003).

Notes

¹ Penrose acknowledges that some firms do not grow for reasons including unenterprising direction, management inefficiency, inability to raise sufficient capital, lack of ability to adapt to changing circumstances, frequent and costly mistakes arising from poor judgement, or bad luck arising from uncontrollable circumstances. However, she does not concern herself with such firms.

² Penrose uses the word 'entrepreneur' in a functional sense to refer to individuals or groups within the firm providing entrepreneurial services. Entrepreneurial services are those contributions to the operations of a firm that relate to the introduction and acceptance on behalf of the firm of new ideas, particularly with respect to products, location and significant changes in technology, acquisition of new managerial personnel, fundamental changes in the administrative organisation of the firm, raising of capital, making of plans for expansion, including the choice of method of expansion. Entrepreneurial services are contrasted with managerial services, which relate to the execution of entrepreneurial ideas and proposals and to the supervision of existing operations. Penrose defines 'enterprise' 'as a psychological predisposition on the part of individuals to take a chance in the hope of gain, and in particular, to commit effort and resources to speculative activity' (Penrose, 1980: 33).

³ Firms are no longer viewed as separate bodies that operate in ‘isolation and preoccupied mainly with making choices between a set of constraints to meet their profit maximisation objectives’ (Juma and Clark, 2002: 8); getting the price right is not their only challenge. This is said to be a static view of the firm, which assumes technological development as exogenous to the process of economic growth. The static view of the firm also presumes the existence of technological options on a shelf, which can be obtained given a firm’s determination of factor endowment and ability to make the relevant choices. Management studies, however, portray the firm as dynamic. For example, the firm’s management has enough discretionary authority over the policies of the firm (Juma and Clark, 2002).

⁴ According to Drucker, innovation may arise from market and customer needs as well as skill and knowledge advancement, for ‘necessity may be the mother of innovation...The less visible or prominent that technological change is in a business, the greater the danger that the whole organisation will ossify’ (Drucker, 1977: 99-100).

⁵ Porter identifies five competitive forces in which the rules of competition are embodied; namely, the threat of entry of new competitors, the threat of substitutes, the bargaining power of buyers, the bargaining power of suppliers, and the rivalry among existing competitors (Porter, 2004; Porter, 2008).

⁶ A few of the TQM pioneers and gurus are W. Edwards Deming, Joseph M. Juran and Karou Ishikawa.

⁷ Two of the management competencies compiled were the ability to set a good example as a boss, for example through punctuality at work, and ability to establish a good working relationship with employees, apprentices and interns.

⁸ For the purpose of this research where, for example, technical competency is made up of ICT, Electrical Rewinding, General Electrical, Tailoring and Dressmaking, and Carpentry and Joinery, these three steps were applied at the detailed level to calculate the competency index for technical competency.

⁹ Only two of the graduates gave an additional success indicator: ‘keeping up with modern trends’ (A. Sossah) and ‘number of software products – a software product is a store of the intellectual property capabilities of the organisation’ (E. Binitie). The graduates did not rate these two responses, which are treated as outliers.

¹⁰ As a measure, Harrington (1995) uses variables including Return on Assets, Value-Added per Employee, and Market Share.

¹¹ Aryeetey et al. (1994: 81) measure the performance of their sample firms in terms of two factors – firms that reported an increase in their profit levels in the

preceding year and those that had an increase in employment in the past five years preceding the fieldwork.

¹² In the case of specific competency tasks, for marketing, a larger proportion of the graduates who practised the various competency tasks had an increase in the number of customers and level of profit. For management, except 'job deadline', 'business account' and 'separate account', a large proportion had the same or a decrease in the number of customers. In the case of changes in the profit level, except 'job deadline', a large proportion of the graduates who practised the other competencies had an increase in the level of profit. The observed differences with regard to 'business account' (0.039) and 'separate account' (0.007) were statistically significant at 5% significant level. The details are shown in Appendices A4.1 and A4.2.

5

Entrepreneurship Formation and Performance

5.1 Introduction

‘Did you not learn, or were you not taught etiquette at school?’ is a rhetoric question my mother would ask. Another common remark often made by an aunt is, ‘*Enye krakye bi a?*’ (‘Are you not an educated man?’); when referring to someone with formal education who does not exhibit good behaviour. My uncles, very skilled and innovative fishermen, would talk of *nkrakyefo ewifo* (referring to literate men as thieves), a perspective that made them cautious in dealing with literates, especially those who recorded their business transactions for them. Their notion of formal education, which was unavailable to most of them when they were young, is functional, that it builds character. Implicitly, the more the years of formal education someone has, the higher the level of civility expected of him or her. These and many other conceptions indicate the high regard in which people hold formal education. For example, about 95% of 600 respondents with some level of education studied in the Madina suburb, Accra, by Peil (1995) believed that educated people were better informed about events in the country than illiterate people. Does education make a difference in people’s performance – in their knowledge (cognitive), skills (psychomotor) and attitude (affectivity)? In other words, does education change people’s way of thinking and analysis of issues (use of the mind) equip people to use their physical power (hand) and affect their feelings about things or reactions to issues (heart)?

Various governments and other development partners are increasingly paying considerable attention to the role of education, and higher education in particular, in propelling growth in less developed economies. Hitherto, the focus was on primary and secondary education, especially on the former, with emphasis on universal primary education, which features strongly in the Millennium Development Goals agenda. Palmer

(2005) notes the various educational reforms and commissions in Ghana over the years that have tried vainly to help solve the problem of unemployment and underemployment. The reason for their failure lies in factors such as the imbalanced nature of the education and training system, which has focused primarily on primary education at the expense of the post-basic level. Nevertheless, '[M]uch hope has been pinned on education as the lynchpin of Ghana's drive for social and economic development' (UNDP/ISSER, 2001:10).¹ The 2008-09 World Competitiveness Report acknowledges the importance as well as limitations of basic education, which raises worker efficiency but without further training limits workers to basic manual tasks and makes it difficult for them to adapt to processes and techniques of production that are more advanced. For countries that are interested in moving up the value chain beyond simple production processes and products, quality higher education and training are crucial (Porter and Schwab, 2008).

Bloom et al. (2006: iii) note the neglect of tertiary education in favour of primary education, especially by donor institutions in their development assistance to sub-Saharan Africa. This is unfortunate considering the benefits of higher education in a knowledge-based economy.

Knowledge-based competition within a globalising economy is prompting a fresh consideration of the role of higher education in development and growth. Previously it was often viewed as an expensive and inefficient public service that largely benefited the wealthy and privileged. Now it is understood to make a necessary contribution, in concert with other factors, to the success of national efforts to boost productivity, competitiveness and economic growth. Viewed from this perspective, higher education ceases to contend with primary and secondary education for policy attention. Instead, it becomes an essential complement to educational efforts at other levels as well as to national initiatives to boost innovation and performance across economic sectors (Bloom et al., 2006: i).²

Bloom et al. (2006) enumerate the benefits of higher education such as improvement in technological catch-up, maximisation of potential to achieve economic growth, acceleration of technological diffusion, decrease in knowledge gap, poverty reduction, increase in tax revenue, increased savings and investment for a more entrepreneurial and civic society, improvement in a nation's health, reduction in population growth, improvement in technology and strengthened governance (Bloom et al., 2006: 1). They find higher education critical as 'a leading instrument' for the promotion of economic growth in Africa to enable it to climb out of

poverty (Bloom et al., 2006). Their justification is that an increase in the stock of tertiary education in sub-Saharan Africa will enable a shift out of the production possibility frontier and bring about income growth. Realisation of such macro achievements calls for enterprises; hence, entrepreneurship and enterprise development are key intermediate factors requiring entrepreneurs with tertiary education or a high initial human capital endowment and competent workers. This leaves us with a puzzle: Are entrepreneurs trained in the traditional apprenticeship system enough or do we need entrepreneurs trained at technical/vocational or university level? Do the graduates with different initial human capital endowments become equally competent entrepreneurs? These issues are addressed in this chapter by drawing on the human capital theory. Section 5.2 elucidates the human capital theory and its controversies; section 5.3 looks briefly at the initial human capital endowment of the graduates studied. Section 5.4 is about the different sources from which the various competency tasks were mostly acquired. Section 5.5 analyses the relationship between initial human capital endowment, levels of education and performance. Section 5.6 sheds light on pathways and performance and section 5.7 presents the conclusion.

5.2 Human Capital Theory

United Nations (2004) pinpoints education as the single most significant factor that contributes to young people's chances of leading productive as well as responsible lives. A similar view is expressed by the 2007 *World Development Report*, which observes that labour is the main asset of the poor; making it more productive requires enhancement of their opportunities to earn money and the development of their human capital so that they can take advantage of such opportunities. 'The decisions that will affect young people's well-being and society's are those that shape the foundational human capital to be productive workers, family heads, citizens, and community leaders' (World Bank, 2006: 5).

One theoretical perspective that has been shedding light on the importance of education is the human capital theory. The principal tenet of the theory is that human capital, as measured by level of education and on-the-job training, brings about an increase in the productivity of workers, which is reflected in their earnings. Human capital results from any activity that is able to raise the productivity of individual workers; full-time education is often taken as the main example (Marshall, 1998). High investment in education and training, therefore, is expected to result in high

earnings.³ Notable among proponents of the human capital theory are Jacob Mincer and Gary S. Becker, neo-classical economists of the Chicago School.

Rosen (1987) describes human capital as the stock of skills and knowledge that are embodied in people. In an economy, human beings are the income-producing agents and their production capacities are the human capital. The return on investment in human capital is that it enhances the skills and the earning power of people and increases the economic decision-making efficiency within and outside the market economy (Rosen, 1987). Rogoff et al. (2001) observe that education makes people better and managers more effective. In the same vein, Killick (1993) states:

Educated people will understand more of their environment and how they can take advantage of it. They will be more knowledgeable about changing opportunities and more self-confident about being able to take advantage of them. It is from this group that most modernization is likely to originate. This is the group that may then come to serve as exemplars to the rest of the population.... (Killick, 1993: 53)

In a longitudinal study of human and social capital investment and the extent to which they enhance performance (defined as survival, profits⁴ and employment generation) of firm founders in the Netherlands, Bosma et al. (2004) conclude that the highly educated among them made more profit and those who had had experience as employees created more employment.⁵

Robinson and Sexton (1994) studied the self-employed in the USA, investigating, among other things, whether education helps entrepreneurs to succeed. They found that for each year of education, earnings in self-employment increased by US\$ 1207.63 (compared with US\$ 825.99 for wage and salaried workers). They refuted the stereotypical claim that entrepreneurs are uneducated, finding that they are rather highly educated and that there is a significant positive relationship between education and entrepreneurial outcomes. They found the mean level of education of the self-employed higher than that of wage and salaried workers. For the self-employed it was 14.57 years; 14.71 years for males and 14.13 years for females. In comparison, the mean level of education of wage and salaried workers was 13.58 years; 13.73 for male workers and 13.40 for female workers.

Van der Sluis (2007) found a significant and positive relationship between schooling and performance. For, 'the higher the schooling level or

the more years of education have been pursued, the higher are the chances that performance is good: earnings are higher, growth is more likely, survival chances are better' (Van der Sluis, 2007: 29).

Frazer (2006) looked at the relationship between apprenticeship training and wages of apprentices which either tie them to their master's shop in *dependent employment* after their training or make them go into self-employment. With reference to Becker's (1964) distinction between general and specific training, Frazer points out that, unlike apprenticeship training in Germany, which is more of the general training type because of its applicability to at least all firms within an industry, the training in Ghana tends to be more specific to the master's firm and reflects its technology and business practice. That is, the human capital of apprenticeship graduates in Ghana is 'technology' specific, making it virtually inapplicable to other apprenticeship firms. The training firm has a monopsony and pays the employed apprentice a marginal wage; the apprentice's productivity can only be recognised by his/her own master/madam (who knows the apprentice's ways of working, which are similar to his/hers). The apprentice is more productive in his/her master's firm than s/he would be in other firms, so the wage available outside is lower. Thus, the only option left to the apprentice is to set up his/her own enterprise. 'The master, therefore, only needs to pay the former apprentice marginally above his outside wage option in order to retain him in the firm. Only in self-employment will the former apprentice receive his full marginal product (including the apprenticeship-enhanced productivity) as a wage' (Frazer, 2006: 4-5).

Controversy over Human Capital Theory

Education, it is argued, does not, or does not by itself, explain differentials in earnings between workers in wage employment and the self-employed. Those who hold this view maintain that education wholly or partially serves as a screening or signalling or filtering device or credentialism. Another criticism relates to overschooling, which can result in lower return to investment in education.

In sum, investment in human capital, through education, impacts positively on earnings of employees and the self-employed; and high education adds to the earnings. Other human capital activities, such as on-the-job training and experience, are also found to contribute to earning differentials. Natural abilities and some background characteristics such as gender also create differentials in earnings. Overschooling and a fall in

the quality of education result in decline in earnings. Therefore, '[C]ompetition for income and status may come to center more on place of employment and the job market than on the school system' (Freeman, 1976: 189). To some extent, education is also found to serve as a screening device for employers.

The question is, as global competition becomes more knowledge-based, do we need entrepreneurship development only at the informal level or based on basic education? Or do we require post-basic and tertiary education to form entrepreneurs? Furthermore, what level of education is associated with more competence, more enterprise success and more employment creation?

5.3 Initial Human Capital Endowment

In Ghana, initial human capital endowment takes three different learning forms: formal, non-formal and informal. Individuals go through one or more of these before entering the world of work, although the educational system focuses more on formal routes to learning. Informal education refers to traditional apprenticeship training, in which the apprentice learns a trade by understudying a master or a madam, most of whom tend to have a low level of education and are also graduates of apprenticeship training. Non-formal education is normally targeted at illiterate adults, equipping them with reading and numeracy skills to enable them to function well in society.

This study focuses on enterprises owned by graduates of Kwame Nkrumah University of Science and Technology (KNUST), Tema Technical Institute (TTI) and traditional apprenticeship training (TAT). These routes and the methods of imparting competencies impact on the quality of graduates and their performance of their enterprises.

Formal training is said to be not responsive enough to market demand outside the modern formal sector (UN, 2004). The context in which the type of education is used has also been questioned. The family and local community play a significant role in some cultures as primary agents of socialisation and learning, thus making the formal school system less significant. However, the formal system is indispensable for equipping people with education, literacy and numeracy, which are important in the lives of young people (UN, 2004: 49).

The need to combine formal schooling and supplementary training is addressed by OECD training programmes set up outside the formal school system to assist young people to set up in business. The training

programmes are meant to make up for the inadequacy of formal education, which would otherwise constitute a waste or misdirection of resources which could have been used to finance and provide logistics for young entrepreneurs (OECD, 2001).⁶

Box 5.1
Highly-educated trainers

Most of the Tailoring and Dressmaking graduates learnt from the owner of Sejeo Fashion, who had the General Certificate of Education Ordinary Level which qualified him for admission to the Tema Technical Institute to learn the trade. A few others also learnt from Auntie Maggie of Makkys Fashion. She is a graduate of the University of Science and Technology (now KNUST). She has a BA in Art (Painting & Designing) and a postgraduate diploma in Art Education. Before setting up her own enterprises, the 55-year-old woman was a Design teacher with the Ghana Education Service (GES) for 18 years. Thus, traditional apprenticeship training in Ghana is not entirely the preserve of masters and madams who themselves are apprenticeship graduates or those with a low level of education.

Haan and Serriere (2002) find the traditional apprenticeship training scheme in Ghana by far the most important source of skills for people working in the informal economy. Traditional apprenticeship accounts for 80-90% of the basic skills training in Ghana, as compared with 5-10% for public training institutions and 10-15% for non-government sources (World Bank, 2006). According to King and McGrath (2002), with most of enterprise in Africa being small and micro, it is important to analyse the nature of skill development models outside the formal training system and employment. As this study has found, due regard should be given to differences in apprenticeship training; for example, some master trainers have a high level of education and that can make a difference in the quality of graduates they produce. As Box 5.1 shows, virtually all the TAT graduates in the Tailoring and Dressmaking enterprises received their training from trainers with at least post-basic education.

Table 5.1
Sources of competencies

Competencies	Learning Sources			Total
	IHC	OJE	ELN	
Marketing				
Carving a Niche	9 (10.1%)	68 (76.4%)	12 (13.5%)	89 (100.0%)
Promotional Activities	9 (12.0%)	44 (58.7%)	22 (29.3%)	75 (100.0%)
Personal Contact	18 (17.1%)	67 (63.8%)	20 (19.0%)	105 (100.0%)
Management				
Job Deadline	45 (37.2%)	49 (40.5%)	27 (22.3%)	121 (100.0%)
Bank Account	10 (16.7%)	35 (58.3%)	15 (25.0%)	60 (100.0%)
Account Separation	18 (22.8%)	37 (46.8%)	24 (30.4%)	79 (100.0%)
Receipts Demanding	31 (30.1%)	53 (51.5%)	19 (18.4%)	103 (100.0%)
Receipts Issuing	17 (23.0%)	39 (52.7%)	18 (24.3%)	74 (100.0%)
Transactions Recording	11 (17.5%)	34 (54.0%)	18 (28.6%)	63 (100.0%)
ICT				
User Req. Spec.	3 (16.7%)	6 (33.3%)	9 (50.0%)	18 (100.0%)
Functionality Test	3 (15.0%)	8 (40.0%)	9 (45.0%)	20 (100.0%)
Stress Testing	2 (14.3%)	4 (28.6%)	8 (57.1%)	14 (100.0%)
Electrical Rewinding				
DC Motor Rewinding	11 (100.0%)	-	-	11 (100.0%)
Motor Speed	13 (92.9%)	1 (7.1%)	-	14 (100.0%)
Coil Thickness	14 (93.3%)	-	1 (6.7%)	15 (100.0%)
Bearing Noise	12 (80.0%)	3 (20.0%)	-	15 (100.0%)
General Electrical				
Touch Wires	12 (41.4%)	5 (17.2%)	12 (41.4%)	29 (100.0%)
Earth Test	12 (42.9%)	5 (17.9%)	11 (39.3%)	28 (100.0%)
Phasing	7 (29.2%)	7 (29.2%)	10 (41.7%)	24 (100.0%)
Continuity Test	16 (55.2%)	7 (24.1%)	6 (20.7%)	29 (100.0%)
Phase Sequence	11 (52.4%)	-	10 (47.6%)	21 (100.0%)
Tailoring & Dressmaking				
Sewing and Ironing	13 (43.3%)	16 (53.3%)	1 (3.3%)	30 (100.0%)
Press Piece	26 (86.7%)	2 (6.7%)	2 (6.7%)	30 (100.0%)
Garment Fitting	26 (89.7%)	2 (6.9%)	1 (3.4%)	29 (100.0%)
Carpentry & Joinery				
Wood Treatment	17 (65.4%)	2 (7.7%)	7 (26.9%)	26 (100.0%)
Wood Seasoning	19 (73.1%)	3 (11.5%)	4 (15.4%)	26 (100.0%)

5.4 Competencies and Sources of Acquisition

This section briefly discusses the three main sources from which the competencies were mostly acquired, as shown in Table 5.1. These are initial human capital, on-the-job learning experience and enterprise learning networks such as family and social networks and training events.

Marketing and management competency tasks were mostly acquired through on-the-job learning experience, followed by enterprise learning networks and lastly the sources of initial human capital endowment, which differ from the sources of technical competencies. Except ICT graduates, who learnt their technical competencies mostly through enterprise learning networks, the graduates in the four other sectors mostly learnt theirs through their sources of initial human capital endowment. In addition, graduates in three of the five sectors – ICT, Electrical Rewinding and Tailoring & Dressmaking – learnt their competencies through on-the-job learning experience, whereas those in General Electrical and Carpentry & Joinery learnt through enterprise learning networks.

In sum, on-the-job learning experience and initial human capital formation are the two main sources for acquiring the competencies, with the former being the most-used source for acquiring general competencies and the latter being the most-used source for acquiring technical competencies of most of the sectors.

5.5 IHC, Levels of Education, and Enterprise Performance

In this study, the focus is not on productivity and earnings of the graduates or their enterprises; instead their competencies and successes are used as proxies to explore the differences among the various human capital formations and the levels of education.

5.5.1 Practice of General Competencies

Competencies are necessary for enterprise success, and for the graduates who have set up micro and small-scale enterprises, general competencies (defined in the study as management and marketing competences) are important in dealing with the external environment and changes that have the potential to affect their businesses. This section analyses the proportion of the three groups of graduates who used these competences. As shown in Table 5.2, the marketing competencies involve three tasks; with the exception of promotional activities, which are practised by less than half of the TTI graduates, at least two-thirds of the graduates with different endowments practise the marketing competences. A larger proportion of the KNUST graduates followed by the TAT graduates and finally the TTI graduates practise promotional activities. The observed differences for this group are statistically significant (0.012) at 5% significant level.

Table 5.2
Practice of general competencies by initial human capital

Competencies	Initial Human Capital				P-value
	KNUST	TTI	TAT	Total	
Marketing					
<i>Carving a Niche</i>					
Practising	24 (77.4%)	30 (68.2%)	35 (76.1%)	89 (73.6%)	
Not practising	7 (22.6%)	14 (31.8%)	11 (23.9%)	32 (26.4%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	
<i>Promotional Activities</i>					**0.012
Practising	24 (77.4%)	38 (86.4%)	31 (67.4%)	75 (62.0%)	
Not practising	7 (22.6%)	24 (54.5%)	15 (32.6%)	46 (38.0%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	
<i>Personal Contact</i>					
Practising	26 (83.9%)	38 (86.4%)	41 (89.1%)	105 (86.8%)	
Not practising	5 (16.1%)	6 (13.6%)	5 (10.9%)	16 (13.2%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	
Management					
<i>Job Deadline</i>					
Practising	121 (100.0%)	121 (100.0%)	121 (100.0%)	121 (100.0%)	
<i>Bank Account</i>					*0.003
Practising	22 (71.0%)	30 (31.8%)	22 (52.2%)	60 (49.6%)	
Not practising	9 (29.0%)	30 (68.2%)	22 (47.8%)	61 (50.4%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	
<i>Account Separation</i>					
Practising	25 (80.6%)	28 (63.6%)	26 (56.5%)	79 (65.3%)	
Not practising	6 (19.4%)	16 (36.4%)	20 (43.5%)	42 (34.7%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	
<i>Receipt Demanding</i>					**0.016
Practising	30 (96.8%)	39 (88.6%)	34 (73.9%)	103 (85.1%)	
Not practising	1 (3.2%)	5 (11.4%)	12 (26.1%)	18 (14.9%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	
<i>Receipt Issuing</i>					**0.012
Practising	26 (83.9%)	19 (43.2%)	29 (63.0%)	74 (61.2%)	
Not practising	5 (16.1%)	25 (56.8%)	17 (37.0%)	47 (38.8%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	
<i>Transactions Recording</i>					*0.004
Practising	24 (77.4%)	20 (45.5%)	19 (41.3%)	63 (52.1%)	
Not practising	7 (22.6%)	24 (54.5%)	27 (58.7%)	58 (47.9%)	
Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)	

*Significant at 0.01 **Significant at 0.05

With regard to management competencies, all the graduates set job deadlines for the delivery of product or completion of service to their customers. A larger proportion of KNUST graduates than those from TTI and TAT practise the remaining management competencies. This may

have to do with the fact that majority of them, especially those in ICT, have registered their businesses, a practice which requires adherence to some of these management practices. Regarding the TTI and TAT graduates, a larger proportion of TTI graduates have separate personal accounts from those of their enterprises, demand receipts for business transactions and record transactions not covered by receipts than TAT graduates. With the exception of meeting deadlines and separation of accounts, the observed differences among the groups regarding the four other management competencies are statistically significant at 5% significant level: 0.003 for operating a business bank account; 0.016 for demanding receipts; 0.012 for issue of receipts and 0.004 for recording business transactions.

In sum, job deadlines are set by all the graduates, but adherence to them is a different matter. That will be deduced in Chapter 6 from what they learnt through feedback and complaints from their customers. The graduates with formal education, especially from KNUST, were more competent in management and marketing than those with informal education (TAT)

5.5.2 Practice of Specific Technical (Sector) Competency

Unlike the management and marketing competencies where the focus is on whether the various competency tasks were practised or not, the focus in the technical competencies is on the frequency of practice. Besides the frequency, the types of tools/accessories/instruments used and the methods employed in carrying out a job are also examined.

ICT Graduates and Competencies

Only the KNUST ICT graduates are considered in this study. The ICT competencies have to do with producing and rendering quality work to customers and minimising the possibility of disputes between the service or product providers and their customers. Three competency tasks are examined, namely user requirement specification, functionality test and stress testing.

The *User Requirement Specification* is a document signifying mutual agreement between the software developer and customer/client, detailing the expected output desired by the client. One of the graduates does not practise this competency and 52.6% always practise it. Some comments regarding the practise of this competency are: 'We discuss and put it down on paper. It is an iterative process. We show it to the client as our

understanding of the request. At times the client does not know what he/she wants. At times the client will tell you that what you have developed is not what he/she actually wants' (F. Eleblu); 'With complex or big jobs, we do that. It is either written or unwritten. It depends on the background of the client. For a network in an office, the clients will tell you the number of points he/she needs for each room' (B. Atitsogbui); 'The user requirement specification serves as the memorandum of understanding. I write this down, which gives us the scope of work and the cost involved. A copy of it is also given to the client' (R. Darko); 'Some of the clients do not even know what they are requesting for. The outcome of our discussion with the clients is what we use as our benchmark for checking the work done and also for pricing.' (E. Currie-Arthur); 'I put this down for my own use, I don't give a copy to the client' (K. Ankar-Brewuo); and 'I put it down for myself and the client' (G. Hagan).

The second competency task, *Functionality Test*, is a verification to ensure the system performs and functions in accordance with the desired output. Even though all the ICT graduates perform this competency task, a little over a third do not always practise it. Some comments regarding the practice are: 'We don't do it extensively, for example, VoIP. We allow the client to use the system to find out whether it is working or there is a bug' (B. Atitsogbui); 'We allow the client to test-run the equipment for one to two weeks for minor jobs and one month for big jobs. Before handing the system over to the client to test-run, I do the functionality testing' (R. Darko); 'We often do it for very big jobs. For small ones, we do it in informal ways' (E. Currie-Arthur); and 'I keep this in mind as I develop the system. When I finish, I give it to the client to test-run it for about three months and collect the feedback. In the course of the usage by the client, if any bug comes up, I do the necessary modifications' (K. Ankar-Brewuo).

Stress Testing is subjecting the system to the highest maximum load for the determination of its stability and correction of bugs. About a third of the graduates does not perform stress testing; only 10% always do it, with most of them (60.0%) doing it occasionally and often. A comment by B. Atitsogbui is instructive: 'The type of equipment used is what guides us. Once we use the appropriate equipment, we think that is enough. For example, we make sure that if we use a cable, it will not go beyond 70 metres. If it does, we will encounter problems.'

In conclusion, the KNUST graduates are found wanting in testing, especially stress testing – the frequency of testing and the practice of it. It

could be said that they do not accord the tests the importance they deserve, which may be partly explained by ignorance on the part of their clients.

Electrical Rewinding Graduates and Competencies⁷

In the study sample, only TAT graduates are in Electrical Rewinding and they are considered here. The competency tasks in this sector are working on direct current motors, checking the speed of motors, finding out if bearings are making noise, and checking the thickness of the wires to be rewound. Motors are manufactured to operate on either alternating current (AC) or direct current (DC). Rewinding DC motors is more complex than rewinding AC motors, according to the graduates, and it requires a high level of technical competence. All the graduates work on AC motors but 73.3% (11) also work on DC motors and one always works on such motors. At least a third practises the three other competencies. One graduate does not check the speed of the motor at all. Concerning the methods and tools employed, generally, the rewinding graduates improvise in carrying out their work, as shown in Box 5.2.

Box 5.2

Application of methods and use of instruments in rewinding motors

Different methods and instruments are used in checking the speed of a motor: a tachometer (33.3% or 5), plate number/wire or motor connection/motor span (46.7% or 7), eye gauge (13.3% or 2) and 'no checking – once the motor functions' (6.7% or 1). In checking whether bearings make noise, the following instruments/methods are used: a screwdriver (73.3% or 11) and spanner (6.7% or 1) are used to touch the motor and noise is detected by bringing one's ear closer to the screwdriver or the spanner while the motor is running; shaking the bearing (6.7% or 1) and mere listening (13.3% or 2). None of the graduates uses a bearing tester. A micrometer is used to check the size of a coil. Most of the graduates (86.7% or 13) use this instrument even though four do not have their own micrometers (when they go to a shop to buy coiling wire they use the shop owner's micrometer to check it). Others use a wire gauge (6.7% or 1) and an eye gauge (6.7% or 1).

These findings on improvisation of tools and methods used for rewinding may explain the high percentage of efficiency losses in motor rewinding found by Hsu et al. (1999) which were referred to in Chapter 4 of this study.

In conclusion, the graduates in Rewinding enterprises adopt inappropriate methods and tools in carrying out their tests. They also seem to be incompetent in handling DC motors.

Table 5.3
Practice of general electrical competencies by IHC

Practice of Competencies	Initial Human Capital		
	KNUST	TTI	Total
<i>Test for Touching Wires^a</i>			
Practising occasionally	2 (18.2%)	2 (11.1%)	4 (13.8%)
Practising often	1 (9.1%)	5 (27.8%)	6 (20.7%)
Practising always	8 (72.7%)	11 (61.1%)	19 (65.5%)
<i>Test on Earthing^b</i>			
Practising occasionally	2 (18.2%)	2 (11.1%)	4 (13.8%)
Practising often	-	4 (22.2%)	4 (13.8%)
Practising always	8 (72.7%)	12 (66.7%)	20 (69.0%)
N/A	1 (9.1%)	-	1 (3.4%)
<i>Test on Phasing^c</i>			
Not practising	2 (18.2%)	1 (5.6%)	3 (10.3%)
Practising occasionally	1 (9.1%)	3 (16.7%)	4 (13.8%)
Practising always	7 (63.3%)	13 (72.2%)	20 (69.0%)
N/A	1 (9.1%)	1 (5.6%)	2 (6.9%)
<i>Test for Continuity^d</i>			
Practising occasionally	2 (18.2%)	2 (11.1%)	4 (13.8%)
Practising often	1 (9.1%)	4 (22.2%)	5 (17.2%)
Practising always	8 (72.8%)	12 (66.7%)	20 (69.0%)
<i>Phase Sequence Test</i>			
Not practising	3 (27.3%)	4 (22.2%)	7 (24.1%)
Practising occasionally	1 (9.1%)	6 (33.3%)	7 (24.1%)
Practising often	1 (9.1%)	4 (22.2%)	5 (17.2%)
Practising always	5 (45.5%)	4 (13.8%)	9 (31.0%)
N/A	1 (9.1%)	-	1 (3.4%)

^a To avoid a short circuit which can result in fire, damage to cables, equipment, components, human life and property. It can also result in failure of the system, equipment and machine.

^b Good earth or grounding protects operators and other people from being electrocuted to death as a result of a faulty machine or equipment. It has to be checked to ensure that all living things are safe.

^c In a three-phase supply system, the phase rotation/ sequence determines the direction of rotation of machines. It has to be checked to ensure that the machine rotates in the right direction; otherwise the machine could be damaged or injure the operator. The absence of any of the three phases is referred to as phasing, which can also cause damage to the machine if it is not checked.

^d A continuity test is necessary to ascertain that all terminations are good. It is also used to check that there are no breaks in cables and fuses.

Box 5.3*Degree of appropriateness in use of instruments*

As depicted in Appendix A5.1, the degree of appropriateness has three levels: *most appropriate*, *appropriate* and *inappropriate instruments*. The *most appropriate instruments* for testing touching wires are the mega and insulation testers because they can tell if the wires (conductors) are touching physically or are touching because of damage or burnt insulation (rubber), referred to as insulation breakdown. They are the best for reading insulation resistance. The *appropriate instruments* are the AVO meter or multi-tester or multi-meter (they can read physical direct contact of wires but are limited in determining wires touching because of insulation breakdown), the ohmmeter, thumb tester and continuity tester. *Inappropriate instruments* are the ammeter and volt meter. For this test, only the KNUST graduates used the most appropriate instrument (45.5%). Those who used inappropriate instruments (27.8%) were all TTI graduates. Generally, a large proportion of the graduates (82.8%) used at least the appropriate instrument. The observed differences are statistically significant (0.003).

For earth testing, the *most appropriate instruments* are the earth or ground tester or earth continuity tester or earth resistance tester (also measures the soil resistance). *Inappropriate instruments* are the AVO meter, multi-tester, testing lamp, bulb tester, voltage meter, ohmmeter, and mega or insulation tester. Over three-quarters of the graduates (75.9%) used appropriate instruments to carry out this test. However, a larger proportion of the KNUST graduates than TTI graduates used the most appropriate instruments.

For phasing, the *most appropriate instruments* are the phase sequence meter or phase rotation meter. It indicates the phase sequence (R-Y-B). The *appropriate instruments* are the multi-tester, tester, AVO meter and voltage meter/tester. The *inappropriate instruments* are the mega, ohmmeter and clamp ammeter. A few of the graduates, especially those from KNUST, did not conduct this test. (One of the KNUST graduates always does this by intuition). All those who used the most appropriate instruments for this test are KNUST graduates. In all, 65.5% of the graduates used at least the appropriate instrument. The observed differences are statistically significant (0.038).

In testing for continuity, the *most appropriate instruments* used are the continuity tester or multi-tester or AVO meter or multi-meter. The *appropriate instruments* are the mega (which is good for sensitive electronic circuits), ohmmeter (good for measuring the resistance of the cable) and bulb tester (good but not for sensitive electronic circuits). The *inappropriate instrument* is the ammeter. A large proportion of the graduates (79.3%), most of them from KNUST, used the most appropriate instruments for the test. The few who used the inappropriate instrument were from TTI.

Finally, in carrying out the phase sequence test, the *most appropriate instruments* are the phase sequence meter, phase sequence detector, multi-meter, AVO meter or multi-tester. The *inappropriate instruments* are the clamp ammeter, volt meter and ammeter. Slightly over a third (34.5%) of the graduates used *inappropriate instruments* for the test, most of them being TTI graduates. (One of the KNUST graduates always does this by intuition and a TTI graduate does it visually). In addition, 24.1% do not conduct the test at all.

General Electrical Graduates and Competencies

KNUST and TTI graduates are involved in this sector. The General Electrical competencies examined here concern carrying out essential tests during and after installation work (see Table 5.3). Three of the five competencies– touching wires, earth testing and continuity – are practised by all the graduates. A larger proportion of the KNUST graduates than their TTI counterparts *always* practise all five competency tasks. However, some of the two groups of graduates practise these essential tasks *occasionally* and *often*. With the exception of phase sequence test, about two-thirds of the other competency tasks are *always* practised. The observed differences are not statistically significant. Appendix A5.1 and Box 5.3 provide information on the appropriateness of the instrument used in carrying out the various tests.⁸

The graduates do not take two competencies, phasing and phase sequence tests, seriously. KNUST graduates are more technically competent than their TTI counterparts.

Table 5.4
Practise of Tailoring & Dressmaking competencies by IHC

Competency	Frequency of Practice	Initial Human Capital		
		TTI	TAT	Total
Sewing and continuous ironing	Practising occasionally	1 (7.7%)	-	1 (3.3%)
	Practising often	-	3 (17.6%)	3 (10.0%)
	Practising always	12 (92.3%)	14 (82.4%)	26 (86.7%)
	Total	13 (100.0%)	17 (100.0%)	30 (100.0%)
Ironing with press piece	Practising occasionally	1 (7.7%)	2 (11.8%)	3 (10.0%)
	Practising often	6 (46.2%)	9 (52.9%)	15 (50.0%)
	Practising always	6 (46.2%)	6 (35.3%)	12 (40.0%)
	Total	13 (100.0%)	17 (100.0%)	30 (100.0%)
Garment fitting	Not practising	-	1 (3.3%)	1 (3.3%)
	Practising occasionally	1 (7.7%)	1 (5.9%)	2 (6.7%)
	Practising often	7 (53.8%)	9 (52.9%)	16 (53.3%)
	Practising always	5 (38.5%)	6 (35.3%)	11 (36.7%)
	Total	13 (100.0%)	17 (100.0%)	30 (100.0%)

Tailoring & Dressmaking Graduates and Competencies⁹

The two groups of graduates involved in the Tailoring and Dressmaking sector are from TTI and TAT. The competencies in this trade are to ensure that the garments sewn are of quality and meet customer specifications. For example, ironing different parts of the dress after sewing before fixing them until the garment is complete will result in a neater dress than if the dress is ironed only after the sewing is completed. Use of a press piece delays sewing but helps to maintain the texture of the material and prevents burning the material or garment accidentally. Using the beater to press the part of the material that is ironed takes time and requires patience and only those who know its value will do it.

In bespoke tailoring, it is essential for the customer to try on the garment before final delivery. Some tailors and dressmakers do not carry out that fitting for a number of reasons, including that the owner of the garment is an old customer whose measurements are already known to them and some customers do not insist on it. However, sometimes even old customers are disappointed over the skipping of basic procedures that are taken for granted. For quality control purposes and to fulfil the popular maxim, *sewing to fit*, trying on the garment is essential. A larger proportion of the TTI graduates than TAT graduates *always* practise the three competency tasks. The two groups of graduates are casual about ironing with press piece and fitting of garment. There are no statistically significant differences between the TTI and TAT graduates regarding the observed differences in each of the three competency tasks examined. These are shown in Table 5.4.

In short, the graduates do not accord *ironing with press piece* and *fitting of garment* the importance they deserve. Generally, the TTI graduates are more competent than the TAT graduates.

Carpentry & Joinery Graduates and Competencies

TTI and TAT graduates are involved in this sector. Two competencies examined in the sector are wood treatment and wood seasoning. Wood is not normally treated and some types of wood are never treated. The reason some give for this is that the nature of some wood does not require it. Wood like 'hyedua', 'asanfona', 'mansonia', and 'red wood' is often not treated because of its natural quality. Others such as 'ceiba' and 'wawa', and any type of plywood require treatment. Depending on the nature of work, some suspend the treatment until spraying time and then mix the treatment chemical (for example, dursban) with the lacquer (the type of

lacquer depends on the desired finishing). Different types of chemicals with different potencies are available and the choice depends on the customer (since the cost varies) and the professional advice of the woodworker. The customer needs to be vigilant because some of the woodworkers are not honest; having charged customers for the effective and expensive chemical, they then buy the inferior type for the work. Some even go to the extent of using waste engine oil from cars without the knowledge of the customer.

Table 5.5
Frequency of practice of C&J competencies by IHC

Competency	Frequency of Practice	Initial Human Capital		
		TTI	TAT	Total
Treatment of wood	Not practising	1 (7.7%)	-	1 (3.7%)
	Practising occasionally	4 (30.8%)	3 (21.4%)	7 (25.9%)
	Practising often	-	3 (21.4%)	3 (11.1%)
	Practising always	8 (61.5%)	8 (57.1%)	16 (59.3%)
	Total	13 (100.0%)	14 (100.0%)	27 (100.0%)
Seasoning of wood	Not practising	-	1 (7.1%)	1 (3.7%)
	Practising occasionally	4 (30.8%)	2 (14.3%)	6 (22.2%)
	Practising often	2 (15.4%)	3 (21.4%)	5 (18.5%)
	Practising always	7 (53.8%)	8 (57.1%)	15 (55.6%)
	Total	13 (100.0%)	14 (100.0%)	27 (100.0%)

Over half of each group *always* treat the wood (see Table 5.5). However, about a third of the TTI graduates do it occasionally. One TTI graduate does not treat the wood he uses. One of the TAT graduates does not season the wood. A little over half of each group do it and about a quarter of the TTI graduates do it *occasionally*.

Carpenters and joiners are found in a cluster of workshops, where different types and sizes of wood already cut to specifications but not seasoned are sold for ready use. Some of them buy boards and have them cut to their specification. Often, some wood dealers bring their products in a lorry to sell wholesale. Sometimes they are not well seasoned and buyers have to keep them for some time. Wood seasoning is done by air-drying. None of the graduates uses kiln drying or other methods. Some claim they do not have enough money to buy extra wood and store it; therefore they buy already seasoned wood for their work. Some, however, buy in

Box 5.4*Some business practices in Carpentry and Joinery*

Designing furniture with auto-cad software was not practised by virtually all of them (85.0%); none of the TAT graduates used it. The few TTI graduates who used it did so occasionally. This may be because auto-cad requires a computer, which may be seen as an additional cost and require knowledge they do not have. The observed differences are not statistically significant. It was observed during the fieldwork that none of the graduates ever made use of protective clothing such as a nose mask at their workshops even when doing sanding work or spraying. The sawdust generated at their workshops and from machine shops, which makes breathing difficult, appears normal to them. A few who were questioned about it knew some of the associated hazards. The problem, however, may be attitudinal. Some of the carpenters and joiners work with portable machines. Over half (70.4% or 19) have a spray gun, 44.4% have portable sanders, a third have portable cross-cutting machines, 29.6% have a portable spindle moulding machine, and 7.4% have a surfacer. All of them (including those with portable machines) use the machine shop for cross-cutting, surfacing, spindle moulding and large jobs that require sanding. The machine shop with its big machines is a pool service where they send their work to be done for them.

All types of wood and wood products are sold in machine shops. Some dealers bring wood right from the 'bush' or sawmill to sell there. The machine shops are located at the places where planks of all sizes and types of wood are sold. Cars are parked there and can be hired to transport wood, ironmongery, wood treatment chemicals and so on. At the time of the interview, three people had a second-hand sanding machine costing GHC 2500 cedis, but because of lack of space, one had not installed his; the others had added theirs to someone else's machines and used them to do their own work as well as to do sanding for others for a fee.

C&J graduates use either a brush or a spray gun for painting; the spray gun may be personally owned or hired. The woodworking machines and equipment owned by a few of them had been acquired second-hand, a common practice in Ghana for small enterprises. The machines are antiquated and occupy considerable space. Most of the graduates also do not have portable ones. Some have a few portable machines, for example, a spray gun (70.4% or 19), sanders (44.0%), a spindle moulding machine (29.6%), cross-cutting machines (33.3%) and a surfacer (7.4%). All of them also use the machine shops for work requiring cross-cutting, surfacing, moulding, and in some cases sanding. Those who have portable sanders make use of the machine shops if they have much work to do or if they are working on large pieces of wood, for example for doors. Some also hire a spray gun when they need it for their work. Those who do not have portable sanders use sandpaper manually. Queuing to use the machines at a machine shop is time consuming and the consensus among the graduates is that it is more convenient to have one's own machine. Besides, those with their own machines are not under pressure and can do neater work. Tools for good finishing and precision work are not available, so much useful wood that could be used for kitchen equipment, toys and so on is thrown away as offcuts. Even the experts interviewed, who are in medium enterprises, find it difficult to obtain the machines and equipment. Some depend on friends outside the country to send them second-hand ones to be paid for in instalments or by giving the person a share in the business.

bulk and allow the air to blow on it for days or weeks. The dryness of the wood is tested by feeling the weight in the hand; no one uses a *moisture meter* to read the moisture content. In fact, virtually none of the graduates had heard of this instrument. In one instance the researcher witnessed boards being exposed to the elements for seasoning for days at one of the workshops. The wood was neatly piled up with small stones separating the boards to allow air to circulate. Because the temperature could not be controlled, some of the wood had split. The boards were later transferred inside the workshop a few weeks before use.

Some of the practices and what goes on in the machine shops are presented in Box 5.4.

In sum, even though the graduates treat and season the wood that they work with, about a quarter of them (mostly from TTI) do so occasionally.

Table 5.6
Competence levels by initial human capital

Competency	Competence Level	Initial Human Capital					P-value
		KNUST	TTI	TAT	Total		
Marketing	Less Competent	12 (38.7%)	31 (70.5%)	26 (56.5%)	69 (57.0%)		
	More Competent	19 (61.3%)	13 (29.5%)	20 (43.5%)	52 (43.0%)		
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)		**0.024
Management	Less Competent	8 (25.8%)	30 (68.2%)	29 (63.0%)	67 (55.4%)		
	More Competent	23 (74.2%)	14 (31.8%)	17 (37.0%)	54 (44.6%)		
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)		*0.001
Technical	Less Competent	20 (64.5%)	21 (47.7%)	25 (54.3%)	66 (54.5%)		
	More Competent	11 (35.5%)	23 (52.3%)	21 (45.7%)	55 (45.5%)		
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)		***0.355
Marketing & Management	Less Competent	8 (25.8%)	27 (61.4%)	26 (56.5%)	61 (50.4%)		
	More Competent	23 (74.2%)	17 (38.6%)	20 (43.5%)	60 (49.6%)		
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)		*0.006
Marketing, Management & Technical	Less Competent	14 (45.2%)	33 (75.0%)	33 (71.7%)	80 (66.1%)		
	More Competent	17 (54.8%)	11 (25.0%)	13 (28.3%)	41 (33.9%)		
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)		**0.016

*Significant at 0.01

**Significant at 0.05

***Insignificant at 0.05

5.5.3 Initial Human Capital, Competence and Success Levels

The analysis of the relationship between the general competencies and the initial human capital, as shown in Table 5.6, shows statistically significant differences among the three sources of initial human capital. A larger proportion of the KNUST graduates were more competent than the TAT graduates, who in turn were more competent than the TTI graduates in the three competencies together. The observed differences are statistically significant (0.016) at 5% significant level. The trend is the same for marketing competence (0.024); management competence (0.001) and for general competencies– marketing and management combined (0.006). Analysis of the technical competence alone shows that a larger proportion of the TTI graduates were more competent than the TAT graduates, and they in turn were more competent than the KNUST graduates. The observed differences are not statistically significant (0.355) at 5% significant level as shown in the third block.

Table 5.7
Success levels by initial human capital

Success Indicator	Success Level	Initial Human Capital			
		KNUST	TTI	TAT	Total
Number of Customers	Same/ Decreased	10 (32.3%)	13 (29.5%)	14 (30.4%)	37 (30.6%)
	Increased	21 (67.7%)	31 (70.5%)	32 (69.6%)	84 (69.4%)
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)
Level of Profit	Same/ Decreased	9 (29.0%)	14 (31.8%)	17 (37.0%)	40 (33.1%)
	Increased	22 (71.0%)	30 (68.2%)	29 (63.0%)	81 (66.9%)
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)
Number of Customer + Level of Profit	Less Successful	9 (29.0%)	16 (36.4%)	19 (41.3%)	44 (36.4%)
	More Successful	22 (71.0%)	28 (63.6%)	27 (58.7%)	77 (63.6%)
	Total	31 (100.0%)	44 (100.0%)	46 (100.0%)	121 (100.0%)

The analysis of the relationship between initial human capital endowments and level of success (Table 5.7) did not yield any statistically significant differences even though a large proportion of the enterprises owned by KNUST graduates, followed by TTI graduates and lastly TAT graduates, were more successful. Here, the success level is determined by a success index of changes in number of customers and level of profit. The more successful ones had scores above the median. The same trend was observed when using profit alone. However, a

large proportion of the enterprises owned by TTI graduates, followed by TAT graduates and finally KNUST graduates, had an increase in number of customers. The observed differences are not statistically significant, which could imply that initial human capital endowment on its own is not enough to explain enterprise success.

5.5.4 Education, Competence and Success Levels

This section is devoted to the relationship between highest level of education attained and competence and success levels. The university graduates are mostly first degree holders; one person has also obtained a master’s degree and another one is pursuing an MBA. The post-basic graduates constitute 56.2% (68) and are made up of those from polytechnics and teacher training institutes (5% or 6), and those with senior secondary school (now senior high school) and secondary school (GCE ‘0’ Level) (7.4% or 9), technical school (34.7% or 42)¹⁰ and vocational training (9.1% or 11) qualifications. The Basic Education graduates comprise graduates from junior secondary school (now junior high school), middle school and dropouts from the secondary or middle schools (18.2% or 22).

Table 5.8
Highest levels of education by competence level

Competency	Competence Level	Highest Level of Education				
		University	Post-Basic	Basic	Total	P-value
Marketing	Less Competent	12 (38.7%)	48 (70.6%)	9 (40.9%)	69 (57.0%)	*0.003
	More Competent	19 (61.3%)	20 (29.4%)	13 (59.1%)	52 (43.0%)	
	Total	31 (100.0%)	68 (100.0%)	22 (100.0%)	121 (100.0%)	
Management	Less Competent	8 (25.8%)	45 (66.2%)	14 (63.6%)	67 (55.4%)	*0.001
	More Competent	23 (74.2%)	23 (33.8%)	8 (36.4%)	54 (44.6%)	
	Total	31 (100.0%)	68 (100.0%)	22 (100.0%)	121 (100.0%)	
Technical	Less Competent	20 (64.5%)	33 (48.5%)	13 (59.1%)	66 (54.5%)	***0.298
	More Competent	11 (35.5%)	35 (51.5%)	9 (40.9%)	55 (45.5%)	
	Total	31 (100.0%)	68 (100.0%)	22 (100.0%)	121 (100.0%)	
Marketing & Management	Less Competent	8 (25.8%)	41 (60.3%)	12 (54.5%)	61 (50.4%)	*0.006
	More Competent	23 (74.2%)	27 (39.7%)	10 (45.5%)	60 (49.6%)	
	Total	31 (100.0%)	68 (100.0%)	22 (100.0%)	121 (100.0%)	
Marketing, Management & Technical	Less Competent	14 (45.2%)	51 (75.0%)	15 (68.2%)	80 (66.1%)	**0.014
	More Competent	17 (54.8%)	17 (25.0%)	7 (31.8%)	41 (33.9%)	
	Total	31 (100.0%)	68 (100.0%)	22 (100.0%)	121 (100.0%)	

*Significant at 0.01 **Significant at 0.05 ***Insignificant at 0.05

As shown in the Table 5.8, a larger proportion of the university graduates are more competent than basic school graduates, who in turn are more competent than post-basic school graduates. These differences are statistically significant at 5% significant level for all the three competencies together [marketing, management and technical] (0.014); for general competencies (marketing and management) (0.006); for marketing competencies alone (0.003) and for management competencies alone (0.001). In technical competence, a larger proportion of post-basic education graduates are more competent than basic education graduates. The least technically competent graduates are those from the university. The last mentioned observed differences are not statistically significant (0.298) at 5% significant level.

Analysis of the relationship between the highest level of education and enterprise success shows that a larger proportion of the university graduates were more successful than basic school graduates, who in turn are more successful than post-basic school graduates in terms of level of profit alone, as well as the number of customers and level of profit put together. Notwithstanding that, a slightly a larger proportion of the post-basic school graduates had more customers over the year than the basic school graduates, who in turn had more customers than the KNUST graduates. The observed differences are, however, not statistically significant. This could mean that highest level of education might not be adequate to ensure enterprise success and it is possible that there might be structural factors allowing those with lower levels of education to be more successful than those with higher levels of education. With reference to success defined by income/profit only, this finding can be said to be consistent with Amankrah et al., who reached similar conclusions about street youth in Accra and stated: 'Quite clearly, there is *no* positive relationship between education and income; actually there even appears to be a negative relationship' (Amankrah et al., 1999: 4) They found that those who had never attended school earned more than those who had completed middle and junior secondary schools and technical or commercial or vocational institutes. Also, those who had completed primary school earned more than their counterparts who had completed senior secondary school.

Table 5.9
Pathways by competence level

Competency	Competence Level Starting Pathways	Present Stage in Pathways					P-val.
		SE/E	DE/E	SE/OAW	DE/OAW	Total	
Marketing	<i>More Competent</i>						*0.003
	Start with WE	9 (34.6)	2 (28.6)	8 (66.7)	5 (71.4)	24 (46.2)	
	Start with SE/OAW	12 (46.2)	1 (14.3)	4 (33.3)	1 (14.3)	18 (34.6)	
	Start with SE/E	4 (15.4)	-	-	-	4 (7.7)	
	Start with DE/OAW	1 (3.8)	4 (57.1)	-	1 (14.3)	6 (11.5)	
	Total	26 (50.0)	7 (13.5)	12 (23.1)	7 (13.5)	52 (100.0)	
	<i>Less Competent</i>						*0.000
	Start with WE	7 (63.6)	1 (33.3)	7 (22.6)	1 (4.2)	16 (23.2)	
	Start with SE/OAW	2 (18.2)	-	24 (77.4)	17 (70.8)	43 (62.3)	
	Start with SE/E	1 (9.1)	-	-	-	1 (1.4)	
Start with DE/OAW	1 (9.1)	2 (66.7)	-	6 (25.0)	9 (13.0)		
Total	11 (15.9)	3 (4.3)	31 (44.9)	24 (34.8)	69 (100.0)		
Management	<i>More Competent</i>						*0.001
	Start with WE	8 (34.8)	3 (30.0)	7 (63.6)	4 (40.0)	22 (40.7)	
	Start with SE/OAW	9 (39.1)	1 (10.0)	4 (36.4)	6 (60.0)	20 (37.0)	
	Start with SE/E	4 (17.4)	-	-	-	4 (7.4)	
	Start with DE/OAW	2 (8.7)	6 (60.0)	-	-	8 (14.8)	
	Total	23 (42.6)	10 (18.5)	11 (20.4)	10 (18.5)	54 (100.0)	
	<i>Less Competent</i>						*0.000
	Start with WE	8 (57.1)	-	8 (25.0)	2 (9.5)	18 (26.9)	
	Start with SE/OAW	5 (35.7)	-	10 (66.7)	12 (57.1)	41 (61.2)	
	Start with SE/E	1 (7.1)	-	-	-	1 (1.5)	
Start with DE/OAW	-	-	-	7 (33.3)	7 (10.4)		
Total	14 (20.9)	-	32 (47.8)	21 (31.3)	67 (100.0)		
Technical	<i>More Competent</i>						**0.032
	Start with WE	12 (48.0)	-	5 (33.3)	3 (25.0)	20 (36.4)	
	Start with SE/OAW	11 (44.0)	1 (33.3)	10 (66.7)	6 (50.0)	28 (50.9)	
	Start with SE/E	1 (4.0)	-	-	-	1 (1.8)	
	Start with DE/OAW	1 (4.0)	2 (66.7)	-	3 (25.0)	6 (10.9)	
	Total	25 (45.5)	3 (5.5)	15 (27.3)	12 (21.8)	55 (100.0)	
	<i>Less Competent</i>						*0.000
	Start with WE	4 (33.3)	3 (42.9)	10 (35.7)	3 (15.8)	20 (30.3)	
	Start with SE/OAW	3 (25.0)	-	18 (64.3)	12 (63.2)	33 (50.0)	
	Start with SE/E	4 (33.3)	-	-	-	4 (6.1)	
Start with DE/OAW	1 (8.3)	4 (57.1)	-	4 (21.1)	9 (13.6)		
Total	12 (18.2)	7 (10.6)	28 (42.4)	19 (28.8)	66 (100.0)		
Marketing, Management & Technical	<i>More Competent</i>						*0.000
	Start with WE	11 (39.3)	-	9 (52.9)	3 (37.5)	23 (38.3)	
	Start with SE/OAW	12 (42.9)	1 (14.3)	8 (47.1)	4 (50.0)	25 (41.7)	
	Start with SE/E	3 (10.7)	-	-	-	3 (5.0)	
	Start with DE/OAW	2 (7.1)	6 (85.7)	-	1 (12.5)	9 (15.0)	
	Total	28 (46.7)	7 (11.7)	17 (28.3)	8 (13.3)	60 (100.0)	
	<i>Less Competent</i>						*0.000
	Start with WE	5 (55.6)	3 (100.0)	6 (23.1)	3 (13.0)	17 (27.9)	
	Start with SE/OAW	2 (22.2)	-	20 (76.9)	14 (60.9)	36 (59.0)	
	Start with SE/E	2 (22.2)	-	-	-	2 (3.3)	
Start with DE/OAW	-	-	-	6 (26.1)	6 (9.8)		
Total	9 (14.8)	3 (4.9)	26 (42.6)	23 (37.7)	61 (100.0)		

Notes to Table 5.9:

Figures in parenthesis are in percentage

*Significant at 0.01

**Significant at 0.05

5.6 Pathways and Performance

The different pathways can provide different learning experiences concerning competence acquisition and development, which can impact on enterprise success. Thus, there is a connection between pathways and enterprise performance (measured by competence and success levels). As clarified in Chapter 3, there are four pathway labels – Wage Employed, Self Employed as an Own-Account Worker, Self Employed as an Entrepreneur and Dual Employed as an Own-Account Worker. Tables 5.9 and 5.10 depict levels of competence and success respectively.

5.6.1 Pathways and Competence Level

The largest proportion of the more competent graduates in marketing started working in wage employment and ended up in dual employment as own-account workers. They are followed by those who also started in wage employment but ended up as self employed entrepreneurs. The least competent ones are dominated by those who started in self-employment as own-account workers and remain in that category, and are followed by those who also start in self-employment as own-account workers but ended up in dual employment as own-account workers.

Of the more competent in management graduates, those who start working in wage employment and end up as self-employed own-account workers are in the majority, followed by two groups: those who start as self-employed own-account workers and end as dual-employed own-account workers or those who start as dual-employed own-account workers and progress to become dual-employed entrepreneurs. The list of the less competent is headed by those who start in self-employment as own-account workers and remain in that category.

Regarding technical competence, the majority of the more competent graduates are those who start as dual-employed own-account workers and progress to become dual-employed entrepreneurs, and those who start as self-employed own-account workers and remain in that category. The latter group are also the majority of the less competent.

Looking at the overall competence level, that is, putting all the competencies together, the majority of the more competent graduates are those

who start as dual-employed own-account workers and progress to become dual-employed entrepreneurs, followed by those who start working in wage employment and end up as self-employed own-account workers and those who start as SE/OAW and end up as dual-employed own-account workers. Among the less competent, the majority are those who start in wage employment and end up as dual-employed entrepreneurs, followed by those who start as self-employed own-account workers and remain in that category, and those who start in the same path and end up as dual-employed own-account workers.

In sum, starting in wage employment is generally associated with being more competent, especially if the person ends up as a self-employed own-account worker or dual-employed own-account worker, but more technically competent if s/he ends up as a self-employed entrepreneur than any other person. Overall, starting as a self-employed own-account worker and progressing to become a self-employed entrepreneur is associated with being more competent than less competent.

5.6.2 Pathways to Success

There is a relationship between pathways and enterprise success, where success is measured by (1) changes in the number of customers, and (2) changes in the number of customers plus changes in the level of profit (see Table 5.10). With reference to the number of customers, the majority of the more successful graduates are those who start as self-employed own-account workers and remain in that category, followed by those who start as dual-employed own-account workers and progress to become dual-employed entrepreneurs. Among the less successful graduates, the majority are those who start as dual-employed own-account workers and end up as dual-employed entrepreneurs, followed by those who start as self-employed own-account workers and either remain in that category or progress to become dual-employed entrepreneurs. The above trend for changes in the number of customers is also evident in the other success indicator, changes in the number of customers plus changes in the level of profit. Thus, there is more of a tendency to be less successful than to be more successful among graduates who start working in self-employment or dual employment. It is only those who start working in wage employment who can be more successful than less successful, especially those who later on move fully into self-employment (as entrepreneurs).

Table 5.10
Pathways by enterprise success

Success Measure	Success Level & Starting Pathways	Present Stage in Pathways					P-value
		SE/E	DE/E	SE/OAW	DE/OAW	Total	
Number of Customers	<i>More Successful</i>						*0.000
	Start with WE	14 (46.7)	3 (33.3)	11 (39.3)	5 (29.4)	33 (39.3)	
	Start with SE/OAW	10 (33.3)	1 (11.1)	17 (60.7)	8 (47.1)	36 (42.9)	
	Start with SE/E	4 (13.3)	-	-	-	4 (4.8)	
	Start with DE/OAW	2 (6.7)	5 (55.6)	-	4 (23.5)	11 (13.1)	
	Total	30 (35.7)	9 (10.7)	28 (33.3)	17 (20.2)	84 (100.0)	
	<i>Less Successful</i>						**0.031
	Start with WE	2 (28.6)	-	4 (26.7)	1 (7.1)	7 (18.9)	
	Start with SE/OAW	4 (57.1)	-	11 (73.3)	10 (71.4)	25 (67.6)	
	Start with SE/E	1 (14.3)	-	-	-	1 (2.7)	
Start with DE/OAW	-	1 (100.0)	-	3 (21.4)	4 (10.8)		
Total	7 (18.9)	1 (2.7)	15 (40.5)	14 (37.8)	37 (100.0)		
Number of Customers + Level of Profit	<i>More Successful</i>						*0.001
	Start with WE	14 (48.3)	3 (33.3)	11 (44.0)	5 (35.7)	33 (42.9)	
	Start with SE/OAW	9 (31.0)	1 (11.1)	14 (56.0)	6 (42.9)	30 (39.0)	
	Start with SE/E	4 (13.8)	-	-	-	4 (5.2)	
	Start with DE/OAW	2 (6.9)	5 (55.6)	-	3 (21.4)	10 (13.0)	
	Total	29 (37.7)	9 (11.7)	25 (32.5)	14 (18.2)	77 (100.0)	
	<i>Less Successful</i>						**0.021
	Start with WE	2 (25.0)	-	4 (22.2)	1 (5.9)	7 (15.9)	
	Start with SE/OAW	5 (62.5)	-	14 (77.8)	12 (70.6)	31 (70.5)	
	Start with SE/E	1 (12.5)	-	-	-	1 (2.3)	
Start with DE/OAW	-	1 (100.0)	-	4 (23.5)	5 (11.4)		
Total	8 (18.2)	1 (2.3)	18 (40.9)	17 (38.6)	44 (100.0)		

Figures in parenthesis are in percentage

*Significant at 0.01

**Significant at 0.05

In conclusion, graduates who start working in wage employment and end up in self-employment as entrepreneurs are generally more competent and successful than those who follow other pathways. This can be explained by the claim of KNUST graduates that most of them gained their competencies from wage employment.

5.7 Conclusion

It has been argued in this chapter that the enterprises in the study, like all other enterprises, operate in a knowledge-based economy where there is technological development. For this reason they need enterprise owners with high initial human capital endowments. It has been shown that to a

large extent enterprise owners with high initial human capital endowments are more competent and successful than those with low initial human capital endowments.

The study looked at the competence levels of the graduates to examine the relationship between enterprise development and learning and establish if competence level translates into success. It examined two sources of competence: the individuals' initial human capital endowments and their pathways to enterprise. The competencies were achieved mostly from on-the-job experience and initial human capital formation, with the former being the major source for acquiring general competencies and the latter being the major source for most technical competencies, with the exception of ICT competency tasks.

The results of the study are somewhat mixed. To a very large extent the graduates with the highest initial human capital endowments are more competent than other graduates. Generally, KNUST graduates are more competent than those from TAT, who in turn are more competent than TTI graduates. In terms of technical competence, TTI and post-basic education graduates are the most competent, followed by TAT and basic education graduates; KNUST or university graduates are the least technical competent. The observed differences are not statistically significant. In terms of practice, all graduates are found wanting. It is worth noting that having a competency is one thing and always putting it into practice is another.

Analysis of the success levels yields a somewhat different picture. Generally the KNUST graduates were more successful than TTI graduates. TAT graduates were the least successful. The observed differences in terms of number of customers, level of profit, and the two together are not statistically significant.

In terms of the highest level of education attained, university graduates are more competent than basic school graduates, who in turn are more competent than post-basic school graduates. These differences are statistically significant. The same trend emerges with regard to differences in success, though the differences are not statistically significant. Education might not be sufficient to make a difference in enterprise competence and success.

ICT graduates attach little importance to the various tests, especially *stress testing*. In Electrical Rewinding, the graduates appear not to be competent enough to work on DC motors and for all tasks, the methods and tools used leave much to be desired. In General Electrical, KNUST

graduates generally exhibit more competence than their TTI counterparts. Some graduates use instruments that are not appropriate to the tasks performed. The level of appropriateness was determined by experts in the same sector. In Tailoring & Dressmaking, TTI graduates are more competent than those from TAT. In contrast, in Carpentry & Joinery, TAT graduates are more competent than TTI graduates. To some extent TTI and TAT graduates do not differ, especially where some of the latter have acquired some post-basic education.

With regard to the human capital theory, this study has confirmed the importance of a higher level of education in creating differentials in ‘return for labour’ as measured by the number of customers and level of profit. Further acquisition of human capital through the pathways has also contributed to this. The pathway that leads to better enterprise performance starts from wage employment and ends up in self-employment, especially as an entrepreneur. Networks are another avenue for further acquisition of competencies, and how they relate to enterprise performance is the subject of the next chapter.

Notes

¹ In addition, ‘reforms in higher education is designed to give prominence to science and technology’ with the National Council of Tertiary Education targeted to reverse the prevailing arts and science enrolment ratio of 60:40 to 40:60

² This quotation is attributed to Jee-Peng Tan, the World Bank’s Education Advisor for the Africa Region.

³ ‘Some investments in human capital do not affect earnings because costs are paid and returns are collected by the firms, industries, or countries using the capital’ (Becker, 1962: 49)

⁴ Bosma et al. used the firms’ third-year profit because ‘The entrepreneur has then been active for three years. Especially in the first two years profit may be somewhat misleading, as initial (sunk) costs often have to be gained back, which reduces profit’ (Bosma et al., 2004: 228).

⁵ In addition, Bosma et al. found that the probability of becoming self-employed is related to higher levels of education, which contradicts Van der Sluis (2007: 29) who did not find any evidence indicating a systematic relationship between schooling level and the probability of selection into entrepreneurship.

⁶ Germany, for example, is noted for its formal apprenticeship scheme, which is undertaken by more than half of the youth. There is a 'dual system', which combines part-time schooling with work and apprenticeship. The success of the programme lies in the fact that it is relevant to the needs of employers. However, in developing countries, with their predominant self-employment and micro enterprises in the informal sector, this form of formal apprenticeship in the modern wage sector is said to be less relevant (World Bank, 2006: 113).

⁷ The following are some business practices of the graduates. For moisture removal as an example, the instruments and methods used are air drying (20.0% or 3), locally fabricated oven (13.3% or 2), heating by bulb (46.7% or 7), element or industrial tester (13.3% or 2) and industrial heater or oven (6.7% or 1). Tools and methods used for coiling of wires: nailing device (60% or 9), locally-fabricated device (33.3% or 5) and coiling machine (6.7% or 1). After completion, the work needs to be tested and different instruments are used: mega/meggar (40.0% or 6), testing lamp (46.7% or 7) and AVO meter (13.3% or 2).

⁸ According to Electricity Company of Ghana policy, after completing an installation for connections for industrial or domestic use, certain tests are mandatory: A continuity test using a continuity tester or an ohmmeter; a polarity test using an ohmmeter; an insulation resistance test using an insulation resistance tester; an earth electrode resistance test using an earth tester; an earth loop impedance test using an earth loop impedance tester; a phase sequence/phase rotation test using a phase rotation meter; and a phasing-out test using a phasing-out tester (to check the phasing against the existing phases).

⁹ Electrical sewing machines are the ones most commonly used in Tailoring & Dressmaking. Possession of an industrial machine gives the enterprise a status, as does the use of own over-lock or knitting machine. Less than a third (30% or 9) of them had industrial machines, compared with 86.7% (26) who had over-lock and knitting machines. Some individuals do knitting or over-locking commercially for tailors and dressmakers who do not have their own machines.

¹⁰ Admission to technical schools for some of the courses requires secondary school education (GCE certificates). The teachers first completed secondary school and teacher training before going to the Tema Technical Institute to pursue the Tailoring & Dressmaking course.

6

Enterprise Learning and Performance

6.1 Introduction

In a competitive business environment, businessmen and women will try as much as possible to keep to themselves the knowledge that gives them a competitive edge. However, the Ghanaian saying *obi nnyim a, obi kyere* (if one doesn't know, another teaches) suggests that no one is a repository of knowledge; exchange and sharing of ideas therefore become necessary. Traditionally, family members and other relatives are sources of inspiration, financial and material assistance and business advice. External sources, for example, tribal and ethnic affiliations, or 'old-boy or old-girl' networks, also help. Unfortunately, these are sometimes abused and are associated with negative connotations such as nepotism and corruption.

Chapter 5 analysed the different initial human capital endowments of the graduates and how they impact on the performance of the enterprises. In this chapter, the focus is on enterprise learning through networks and the principal questions are: To what extent are these enterprise learning networks different for enterprises owners with different initial human capital and to what extent do they impact on the performances of the enterprises? Networks are the connections or links between two or more people or groups with a common interest. They are the different sources of competence sharing and exchange that are available to an enterprise. Networks may be likened to sociometry, where individuals form relationships – dyadic, triadic or polyadic because of characteristics or things that they share in common. Information exchange is the hallmark of networking. This chapter is divided into eight sections. Section 6.2 concerns the review of literature on networks; section 6.3 examines the relationship between networks and enterprise success; section 6.4 looks at the relationship between initial human capital endowment and networks; section

6.5 analyses the relationship between sector and networks used; section 6.6 focuses on type of business ownership and networks; section 6.7 analyses the competencies learnt from various communication and mass media, and section 6.8 draws conclusions.

6.2 Networking and Learning

An individual's network may influence enterprise endeavours because of assistance obtained or assurance of getting assistance from individuals, groups or organisations in the network.

Long (2001) regards social networks as factors contributing to giving direction to economic careers and influencing decisions regarding combining or switching between branches of economic activities. 'No individual...an entrepreneur wishing to expand his businesses has a ready-made matrix of relationships and investments that remains constant over time. Even those who inherit businesses or occupations from their parents or other kin must, during the course of their economic careers, reconstitute and modify the sets of relationships involved' (Long, 2001: 134).

Giddens (2006: 669-70) sees networks as a sociological term for 'connections'. Thus, networks are the direct and indirect connections linking individuals or a group with others. They can be acquired from social groups. Advantages to be accrued from networks are more than economic; through networks, people can have many contacts who will pave the way for them, for example, when they find themselves in an unfamiliar environment or when they need social support. Different historical periods, such as those of the industrial and information revolutions, affect the changing nature of social and human interactions. Today, the Internet facilitates connections between people.

Networking makes SMEs less susceptible to risk, fosters mutual information exchange and know-how between enterprises, creates a rich collective knowledge pool, and provides the government's technological extension services such as quality assurance, information and research support; other benefits of networking are increased output and employment, diffusion of knowledge and skills, raising of SMEs into the formal sector; and improved enterprise ability to obtain finance on commercial terms (Elhiraika and Nkurunziza, 2006). The importance of networks also lies in the fact that '[A] large part of technology, both new production processes and products, involved uncodified knowledge: rules of thumb acquired only with experience and via sustained interaction with the peo-

ple and institutions embodying this know-how' (Biggs and Raturi, 1997: 35-6).

Discussions on networks also focus on their size. Large networks are not beneficial enough until one makes the best use of the information involved (Gumm and Hatala, 2007). The size of the firm has to do with degree of linkage. Small-to-medium enterprises are likely to engage in more sector-related networks. With their openness to external knowledge sources, they learn from tacit and codified knowledge. Larger firms are involved in a lot of subcontracting and also have higher linkage capabilities. A firm's internal capability networks are necessary as they enhance its ability to innovate products and processes. Thus, network capabilities are necessary for the following reasons:

- Competitive pressures, which alter the nature of markets and the required technical conditions, induce firms to reach for knowledge bases outside of themselves in order to reinforce extant sources in-house.
- Growing firms need to reinvent themselves through the acquisition of new skills and new knowledge and technical information.
- The need to honour obligational relationships, for instance, in a subcontracting¹ or supplier relationship, compels firms to develop linkage capacity for feedback on products and services.

The reasons for forming knowledge networks differ based on the firms' technological capabilities and strategic foci – 'the extent and type of market segments and products, and the structural characteristics of network agents within the national system of innovation' (Oyelaran-Oyeyinka, 2003). For small firms, the inability to maintain their own capability due to lack of resources makes 'collective learning' very important. That is, apart from learning on their own they can learn from other sources such as input and equipment suppliers as well as clients (Helm-sing, 2005).

Small and medium-sized enterprises, because of their limited resources, use a variety of sources and are linked to different networks to obtain the information they need to develop their strategies and *organise* their environment. Among other things, networks keep them up to date with changes in the economy and allow them to take advantage of opportunities to innovate, thus staying ahead of their competitors. The business networks with which these firms interact most are usually geographically or sociologically close by, embedded in the *environment*, and are known as strong-tie networks. They generally supply signals in a familiar lan-

guage, based on habit as well a good reciprocal knowledge, which are easy to understand. In addition, the most dynamic firms also have contacts with weak-tie networks, which are further removed from the usual behaviour of entrepreneurs and provide weak signals that, while difficult to grasp and decode, nevertheless offer new, pre-competitive information than can support major innovations (Julien et al., 2004: 251).

Van Dijk (1996) investigates networking and participation in association and their bearing on entrepreneurial success of small enterprises in Accra. He limits the interactions of enterprises to family, friends, tribal members and other entrepreneurs. The enterprises use networks as coping strategies for obtaining financial assistance for food and finding work. Through associations, people can hold discussions and exchange new ideas and experiences. Also, associations may be the interlocutors for negotiating with government. Sverrisson's (1996) study of light engineering and metal working in Accra finds that their active creation and maintenance of local input and output networks has been important in contributing to the survival of the light engineering sector. Networks also have their downside because conceptually they are based on mutual interest but requests for assistance or 'demands for loyalty' may be rejected (Long, 2001). OECD (2003: 162) found that an entrepreneur's membership of an active club, team, association or organisation is positively associated with the success of the business. On the average, active members earned 40% more than the non-members and members who reported that contacts were not useful to their business did not see their income go up at all. Similarly, in a study based on data on business contacts of Ghanaian entrepreneurs and data from a Regional Program for Enterprise Development survey in Ghana, Barr (1995) finds networks important in determining enterprise performance; the enterprises of entrepreneurs who have larger and more diverse sets of contacts are more productive in addition to benefiting from the networking activity of the contacts. Through the networks, flows of technical knowledge are facilitated between enterprises.

It can be concluded that an enterprise can have various networks. They may be connections with blood relations or other people, and may be individuals or enterprises. Whoever or whatever these networks are, an enterprise can derive different benefits from interacting with them. Of course, the motive for networking in the context of this study has to do with learning from others, especially to obtain knowledge that is tacit. However, networking also carries a cost and could involve a trade off; the

cost arises from revealing trade secrets to another member of the network while the trade off could be having to accept that someone else in the network is taking advantage of you, because of other benefits of the network to you. Therefore, all things being equal the bigger the network size, the better.

6.3 Opportunity and Bonding Networks

In this study, networks are seen as channels for lifelong learning.² How the graduates learnt after setting up their enterprises in order to meet the changing demands of business stakeholders, especially consumers, is vital.

The graduates were asked to answer in the affirmative or negative whether they interacted with and learnt competencies from a checklist of networks. In addition, they were to mention, if any, the specific and most important competency that they often learnt from each of the networks that they believed had impacted on the success of their enterprises. These learning sources or networks are grouped broadly into two, opportunity networks and bonding networks. Opportunity networks are deliberate interaction with people solely to learn from them or exchange business ideas with them. They comprise enterprises in similar and different sectors; training events, trade fairs, graduation ceremonies, fashion shows; association membership and role models. Bonding networks are interaction with people because of either their blood or social relations and from whom business ideas may be obtained. They are made up of friends, parents and siblings.

The opportunity networks and the percentage of graduates who used them are: *enterprises in a similar trade* (86 % or 104), *enterprises in different trades* (59.5% or 72), *attendance at training events* (27.3% or 33),³ participation in or attendance at *trade fairs* (64.5% or 78), *association membership* (19% or 23) and *role models* (39.7% or 48).⁴ Two other opportunity networks, which concern graduates in Tailoring & Dressmaking, are *attendance at graduation ceremonies* and *fashion shows*.⁵ The low number of graduates belonging to an association is not surprising; Van Dijk (1996) found that only about a third of the entrepreneurs he studied in Accra belonged to an association. He concluded that the enterprises were against associations and wanted to be independent. The limited role that trade associations play in the studied areas was also a factor.

The bonding networks and the proportion of graduates who used them are: *friends* (85.1% or 103), *parents* (55.4% or 67) and *siblings* (43.8% or

53). From the figures, it appears that networking with *enterprises in similar trade* and with *friends* is easier than any other network. The two may go hand in hand because it is easy to make friends with colleagues in a similar trade. One difference between the two sets of networks regarding exchange and access to information is that opportunity networks require some effort and involve cost while bonding networks occur spontaneously.

Let us briefly look at some of the networks. Individuals attend training programmes on the basis of their training needs, either to fill a performance gap or to take up higher responsibilities or face new challenges in future. Apart from the desired learning outcomes – knowledge, skills and attitudes that will be acquired – the trainees establish contacts between themselves through networks. Contact addresses, phone numbers and e-mail addresses of all participants are often compiled for distribution after training. This practice is very common in various training situations, for example at conferences, seminars and workshops. It facilitates networking after the training. In the course of the training, business cards are also exchanged for the same purpose. So, in addition to what the graduates might have learnt during the training sessions, the training event is also a way of establishing networks for subsequent knowledge exchange. Similarly, the benefits of attendance at trade fairs or exhibitions do not end with what is observed, learnt, sold or purchased in the course of the event; what happens afterwards, with individuals continuing to link up with exhibitors and other people they come across, is also important.

6.3.1 Network Size

Network size refers to the number of relationships and quality network size is the number of links/contacts that are available to an enterprise for sharing and exchange of ideas. According to King and McGrath (2002), there are some advantages that can be accrued from being better networked than others. Analysis of the network size and initial human capital endowments of the graduates shows that those from KNUST have the largest percentage of graduates with at least four opportunity networks (Table 6.1).⁶ They are followed by those from TTI and finally TAT.

Table 6.1
Network size by initial human capital

Network Size	Initial Human Capital			
	KNUST	TTI	TAT	Total
<i>Opportunity</i>				
0	1 (3.2%)	1 (2.3%)	1 (2.2%)	3 (2.5%)
1	3 (9.7%)	6 (13.6%)	6 (13.0%)	15 (12.4%)
2	5 (16.1%)	13 (29.5%)	14 (30.4%)	32 (26.4%)
3	3 (9.7%)	12 (27.3%)	13 (28.3%)	28 (23.1%)
4	10 (32.3%)	6 (13.6%)	7 (15.2%)	23 (19.0%)
5	7 (22.6%)	6 (13.6%)	4 (8.7%)	17 (14.0%)
6	2 (6.5%)	-	1 (2.2%)	3 (2.5%)
Total	31 (25.6%)	44 (36.4%)	46 (38.0%)	121 (100.0%)
<i>Bonding</i>				
0	1 (3.2%)	3 (6.8%)	2 (4.3%)	6 (5.0%)
1	16 (51.6%)	18 (40.9%)	8 (17.4%)	42 (34.7%)
2	9 (29.0%)	12 (27.3%)	17 (37.0%)	38 (31.4%)
3	5 (16.1%)	11 (25.0%)	19 (41.3%)	35 (28.9%)
Total	31 (25.6%)	44 (36.4%)	46 (38.0%)	121 (100.0%)

Table 6.2
Network size by highest level of education attained

Network Size	Highest Level of Education			
	University	Post-Basic	Basic	Total
<i>Opportunity</i>				
0	1 (3.2%)	2 (2.9%)	-	3 (2.5%)
1	3 (9.7%)	11 (16.2%)	1 (4.5%)	15 (12.4%)
2	5 (16.1%)	21 (30.9%)	6 (27.3%)	32 (26.4%)
3	3 (9.7%)	19 (27.9%)	6 (27.3%)	28 (23.1%)
4	10 (32.3%)	8 (11.8%)	5 (22.7%)	23 (19.0%)
5	7 (22.6%)	7 (10.3%)	3 (13.6%)	17 (14.0%)
6	2 (6.5%)	-	1 (4.5%)	3 (2.5%)
Total	31 (25.6%)	68 (56.2%)	22 (18.2%)	121 (100.0%)
<i>Bonding</i>				
0	1 (3.2%)	4 (5.9%)	1 (4.5%)	6 (5.0%)
1	16 (51.6%)	24 (35.3%)	2 (9.1%)	42 (34.7%)
2	9 (29.0%)	20 (29.4%)	9 (40.9%)	38 (31.4%)
3	5 (16.1%)	20 (29.4%)	10 (45.5%)	35 (28.9%)
Total	31 (25.6%)	68 (56.2%)	22 (18.2%)	121 (100.0%)

In terms of the highest level of education attained (Table 6.2) the largest percentage are those with university education, followed by the post-basic education graduates and then basic education graduates. The trend is different for bonding networks.⁷ The observed differences are statistically significant (0.048) at 5% significant level. TAT graduates constitute the largest group, followed by TTI graduates and finally KNUST graduates. It is also highest among post-basic education graduates followed by basic education graduates and finally those with university education.

In conclusion, graduates from the higher education levels tend to select opportunity networks more than those from the lower levels; the latter rely more on bonding networks. Thus, graduates with higher initial human capital endowment are able to make use of weak networks, which are mainly for business purposes, than those with lower initial human capital endowment.

6.3.2 IHC, Level of Education and Networks

Here, the analysis is to determine the type of networks used by the graduates with various initial human capital endowments and different levels of education. The results are presented in Tables 6.3 and 6.4.

Table 6.3
Networks by initial human capital

Network	Initial Human Capital			P-value
	KNUST	TTI	TAT	
<i>Opportunity</i>				
Similar Sector	26 (83.9%)	38 (86.4%)	40 (87.0%)	**0.925
Different Sector	20 (64.5%)	25 (56.8%)	27 (58.7%)	**0.792
Training	17 (54.8%)	9 (20.5%)	7 (15.2%)	*0.000
Trade Fairs	19 (61.3%)	31 (70.5%)	28 (60.9%)	**0.581
Association	14 (45.2%)	5 (11.4%)	4 (8.7%)	*0.000
Role Models ^a	13 (41.9%)	14 (31.8%)	21 (45.7%)	**0.293
<i>Bonding</i>				
Friends	26 (83.9%)	37 (84.1%)	40 (87.0%)	**0.906
Parents	14 (45.2%)	23 (52.3%)	30 (65.2%)	**0.194
Siblings	9 (17.0%)	15 (28.3%)	29 (54.7%)	*0.003

^a They exclude the graduates who had role models but had not learnt any enterprise competency from them: KNUST (22.6% or 7), TTI (11.4% or 5) and TAT (13.0% or 6).

*Significant at 0.01

**Insignificant at 0.05

Graduates with the highest initial human capital endowment (that is, from KNUST) and those with the highest level of education (that is, the university) attend *training events* and join *associations* more than their counterparts at the lower channels and with a lower level of education. These differences are statistically significant. Besides, from the initial human capital, the KNUST graduates network with *enterprises in a different sector* than do TAT and TTI graduates. A larger percentage of the TTI graduates also attend *trade fairs* more than those from KNUST and TAT. The TAT graduates, on their part, network with *enterprises in a similar sector* more than TTI and KNUST graduates. Furthermore, the highest proportion of graduates who network with *enterprises in a similar sector and enterprises in a different sector*, and attend *trade fairs* is among those with post-basic education, followed by university graduates and finally TAT graduates.

Table 6.4
Networks by highest level of education attained

Network	Highest Level of Education			P-value
	University	Post-Basic	Basic	
<i>Opportunity</i>				
Similar Sector	26 (25.0%)	58 (55.8%)	20 (19.2%)	**0.747
Different Sector	20 (27.8%)	36 (50.0%)	16 (22.2%)	**0.209
Training	17 (51.5%)	13 (39.4%)	3 (9.1%)	*0.000
Trade Fairs	19 (24.4%)	43 (55.1%)	16 (20.5%)	**0.685
Association	14 (60.9%)	5 (21.7%)	4 (17.4%)	*0.000
Role Models ^a	13 (27.1%)	22 (45.8%)	13 (27.1%)	**0.100
<i>Bonding</i>				
Friends	26 (25.2%)	58 (56.3%)	19 (18.4%)	**0.967
Parents	14 (20.9%)	38 (56.7%)	15 (22.4%)	**0.250
Siblings	9 (17.0%)	28 (52.8%)	16 (30.2%)	*0.005

^a They exclude the graduates who had role models but had not learnt any enterprise competency from them: KNUST (22.6% or 7), TTI (11.4% or 5) and TAT (13.0% or 6).

*Significant at 0.01

**Insignificant at 0.05

Generally, the graduates with the highest initial human capital endowment (KNUST) and those with the highest level of education (university) hardly learn from bonding networks. The observed differences in networking with *siblings* are statistically significant.

To conclude, the higher the graduates' initial human capital endowment or level of education, the higher the tendency to engage in opportunity networks; the lower the graduates' initial human capital endowment or level of education, the higher the tendency to engage in bonding networks.

6.4 Networking and Competencies Gained

This section analyses the competencies gained from the various networks by the different sectors. As shown in Table 6.5, a large percentage of the ICT graduates attended *training events*, followed by graduates in General Electrical and then Tailoring & Dressmaking. A larger percentage of the Tailoring & Dressmaking graduates attended *trade fairs* than any other group and they were also the third highest after General Electrical and ICT in joining *associations*. For these three opportunity networks, the observed differences are statistically significant. Graduates in Electrical Rewinding constitute the smallest percentage using these networks, followed by those in Carpentry & Joinery; the highest percentage of Electrical Rewinding graduates network with *enterprises in similar sectors*. Also, almost all the Tailoring & Dressmaking graduates and a little over half of them attended *graduation ceremonies* and *fashion shows* respectively (these two opportunity networks are exclusively for them). A larger proportion of graduates in Electrical Rewinding and Tailoring & Dressmaking network with *siblings* than the rest of the graduates, especially those in the General Electrical trade. In networking with *siblings*, the observed differences are statistically significant.

Generally, a higher proportion of the graduates in Tailoring & Dressmaking followed by those in Electrical Rewinding and Carpentry & Joinery network in bonding networks. Unlike the other trades, where more networking with opportunity networks meant less networking with bonding networks, Tailoring & Dressmaking graduates network with both opportunity and bonding networks.

In conclusion, the ICT, General Electrical and Tailoring & Dressmaking graduates network through *training events* and *association members*. In addition, the graduates in these three sectors together with those from Carpentry & Joinery network through attendance at *trade fairs*. Except those in Tailoring & Dressmaking, to the graduates, more opportunity networks meant fewer bonding networks and vice versa. Finally, graduates in Electrical Rewinding and Tailoring & Dressmaking network with

siblings more than their counterparts, especially those in General Electrical.

Table 6.5
Networks by sector

Network	Sector					P-value
	ICT	ER	GE	T&D	C&J	
<i>Opportunity</i>						
Similar Sector	17 (85.0%)	12 (80.0%)	23 (79.3%)	27 (90.0%)	25 (92.6%)	**0.573
Different Sector	13 (65.0%)	10 (66.7%)	17 (58.6%)	18 (60.0%)	14 (51.9%)	**0.872
Training	12 (60.0%)	1 (6.7%)	11 (37.9%)	7 (23.3%)	2 (7.4%)	*0.000
Trade Fairs	15 (75.0%)	2 (13.3%)	17 (58.6%)	24 (80.0%)	20 (74.1%)	*0.000
Association	6 (30.0%)	-	10 (34.5%)	7 (23.3%)	-	*0.003
Role Models ^a	8 (40.0%)	8 (53.3%)	13 (44.8%)	8 (26.7%)	11 (40.7%)	**0.277
Graduation Ceremonies	-	-	-	25 (83.3%)	-	-
Fashion Shows	-	-	-	17 (56.7%)	-	-
<i>Bonding</i>						
Friends	18 (90.0%)	12 (80.0%)	20 (69.0%)	28 (93.3%)	25 (92.6%)	**0.051
Parents	9 (45.0%)	10 (66.7%)	12 (41.4%)	21 (70.0%)	15 (55.6%)	**0.162
Siblings	7 (35.0%)	9 (60.0%)	5 (17.2%)	20 (66.7%)	12 (44.4%)	*0.002

^a They exclude the graduates who had role models but had not learnt any enterprise competency from them: KNUST (22.6% or 7), TTI (11.4% or 5) and TAT (13.0% or 6).

*Significant at 0.01

**Insignificant at 0.05

Box 6.1
Experience of I. Sey at a garment design shop

I. Sey received a contract to sew for the La Palm Royal Beach Hotel after being recommended by a fellow tailor who did not know how to sew a suit. This contrasted with another experience, when he entered a garment design shop to have a look at the items on display. The owner of the shop looked at his fingers and asked him to leave. According to Sey, a professional in the trade can detect from the thumb and index finger whether a person is in the same trade or not. The owner of the shop had assumed Sey had gone there to copy or 'steal' a style.

6.4.1 Sector and Competencies Acquired from Networks

Networking with Enterprises in the Same Sector

Even though there is competition, the enterprises cooperate with each other by exchanging sector-related ideas. Box 6.1 presents a case in point where one graduate shared a contract with another person on the basis of the latter's capability to execute the job to the required standard.

Oyelaran-Oyeyinka (2003) found Nigerian entrepreneurs 'notoriously individualistic' people who always sought to protect their trade secrets, even though 25% of them collaborated with others in product development, 26% in marketing, and 37% in input purchases. Elhiraika and Nkurunziza (2006) are, however, of the opinion that SMEs in the same or related trades could establish networks to work on a joint development objective for better competition in the marketplace. Sværriðsson (1996: 175) has expressed the importance of sharing through networks:

Because of incomplete sets of machinery in many enterprises, welders and turners must interact continuously with each other and with the combined shops. The welding enterprises would, for example, routinely approach machine shops of both types for work they could not carry out themselves, such as machining of shafts and milling work, particularly gears.

From their colleagues in the same sector, the graduates in this study acquired technical, management (and finance) and marketing competencies. The *ICT* graduates learnt various competencies from colleagues in a similar trade. Most of them were technical, notably new technology, system implementation, programme language, website development and graphic design (50%) and management such as time and human resource management – for example, attitude towards work (25%). Among the *Electrical Rewinding* graduates, most of the competencies learnt were technical: notably, connecting motors, setting up a welding machine for rewinding, and handling other technical jobs (55.4%). Almost all the competencies learnt by *General Electrical* graduates were technical; for example, dismantling a motor, cable work, casting a flow, fixing contactors, fault tracing, earthing, decking, electrical security systems, and new technologies and how they work (65.5%). *Tailoring & Dressmaking* graduates learnt mostly about styles or designs, and other technical competencies like cutting, pricing, and ironing (76.6%). Graduates in *Carpentry & Joinery* learnt mostly about technical competencies: quality work; wood treatment; spray painting; fixing swinging hinges; construction – roofing pillars, moulding, form work and design; and pricing (62.9%).

The rest were management competencies; for example, planning and business improvement (14.8%) and marketing strategies (14.8%).

To conclude, the graduates in all the five sectors learnt mostly technical competencies from enterprises in the same sector as theirs. This buttresses the point that the type of network contributes to the type of competency or information to be learnt from the contact.

Networking with Enterprises in Different Sectors

Enterprises in different sectors can network to exchange ideas often on non-technical competencies such as financial matters, management practices and marketing issues. This may be easier than with *enterprises in a similar sector* where the issue of competition may prevent some of them from divulging their strategic tacit knowledge. Some *enterprises in different sectors*, especially those that offer complementary services, still offer technical assistance. For example, a carpenter working on a sofa still needs the services of a tailor to do the sewing for him and the two can collaborate on that.

Most of the competencies learnt by the *ICT* graduates are of a general nature: marketing – for example, customer care and satisfaction, and branding (25.0%) and management and finance – for example, good business practices such as working on time, bookkeeping, good leadership and commitment to the job (40%). *Electrical Rewinding* graduates learnt mostly about management: the need to be committed to the business, managing funds well, and business expansion (46.7%). Among the graduates in *General Electrical*, the competencies learnt were mostly about finance – for example, managing funds, cost cutting, savings, keeping receipts and debt collection (20.7%), and general management – for example, office management, a serious attitude towards business, the need to register the business, exploring business opportunities and professional development (20.6%). *Tailoring & Dressmaking* graduates mostly learnt general issues: customer relations (16.7%); managing funds and bookkeeping (16.7%); business expansion, time management, business environment, and commitment to the job (20.1%). A case in point is given in Box 6.2.

Box 6.2***Becky M's experience at La Palm Royal Beach Hotel***

Becky M. learnt about working in a good business environment. She had a contract at the La Palm Royal Beach Hotel and executed it in an air-conditioned room assigned to her at the hotel. The room was so conducive that after the contract, she installed an air-conditioner at her own workshop. According to her, an air-conditioned environment reduces tiredness and thus increases productivity.

The graduates in *Carpentry & Joinery* learnt more general competencies than technical ones: management – material storage, managing the business, and improving the business (14.8%); finance – managing funds and savings (11.1%); marketing – good customer relations and customer care (11.1%); and technical – ideas on plumbing; electricity supply; tapping electrical wires when doing carpentry work, reading a building plan, and designing (14.8%).

To conclude, mostly management, finance and marketing competencies were learnt from enterprises in different trades.

Learning and Networking Through Training

As stated earlier, people network during and even after a training event. The following are the competencies learnt through training networks. Most of the *ICT* graduates learnt technical-related competencies; for example, web development, networking, Internet service providers, voice-over-Internet protocol, and technology training (55%). Only one person in *Electrical Rewinding* learnt through training; he sat for the NVTI examination. For those in *General Electrical*,⁸ the training was mostly technical; for example, automation systems, product selection, the programmable logic controller, and working on high-tension cables (20.7%). The rest (13.8%) participated in the Vocational Skills and Informal Sector Support Project training programme, where they learnt general and technical competences. The graduates in *Tailoring & Dressmaking* learnt general and technical competencies. Two *Carpentry & Joinery* graduates participated in training. One learnt about designing and the other about the importance of self-employment. In sum, not many graduates participated in training and the few who did learnt mostly technical competencies.

Learning and Networking through Trade Fairs

Various competencies are learnt by attending trade fairs. Some of the *ICT* graduates mostly learnt technical competencies; for example, software systems, new gadgets, technologies and solutions (30%) and prospects in the web market and the new opportunities to be explored (20%). Among the graduates in *Electrical Rewinding*, the few who had ever attended a *trade fair* learnt technical competencies; for example, new motors (13.4%). The *General Electrical* graduates mostly learnt technical competencies; for example, new electrical accessories and new technology and how to operate them, and security equipment (55%). The graduates in *Tailoring & Dressmaking* mostly learnt technical competencies; for example, styles in vogue, new accessories and machines and how to use them (73.3%). All the graduates in *Carpentry & Joinery* learnt technical competencies – product quality (14.8%) and designs; for example, mouldings, pricing, and new machines (59.3%). To conclude, attendance at *trade fairs* offered the graduates mostly technical competencies.

Learning and Networking Through Associations

Membership of an association plays a major role in competency learning. According to Helmsing (2005), business associations serve as sources of innovation and contribute to stimulating local producers to update their competencies; they are the conduit for learning by interaction between firms. The traditional function of an association is to represent its members in dealing with government, lobbying for economic policies that are more favourable, negotiating collective wage agreements with trade unions, and providing a reference group for individual entrepreneurs. Two other recent functions are: providing real services and ‘private interest governance’, that is, the ‘regulatory functions performed by associations, especially establishment of norms and standards for products, best practices and codes of conduct. The associations can also resolve conflicts of interest between firms’ (Helmsing, 2005: 27). In the World Bank-financed Vocational Skills and Informal Sector Support Project, trade associations, especially the Ghana National Tailors and Dressmakers Association (GNTDA), were involved in the design of the training courses, selection of the trainees, and choice of tools included in the equipment kits (Haan, 2003).

The GNTDA, for example, organises classes for members’ apprentices when they are in the second year or last year of their training at the zonal level. This is necessary because most of their madams and masters

have a low level of education and do not teach the apprentices the theories of the sector; they also do not know certain terminology of the trade. The classes are organised once a week on Mondays and the madams or masters have to release their qualified apprentices to attend them. Among other things, they are taught pattern drafting and cutting. The GNTDA sets the examination and the marking is done at the regional level. The examination is mostly practical in nature. Certificates are issued to deserving apprentices at graduation ceremonies. The associations do not address some issues because they feel they are the responsibility of the state or the state can facilitate them. These include setting standards for electrical accessories imported into the country; public valuing of the profession of artisans, organisation of fora to meet SMEs on issues such as handling of jobs, avenues for exporting their products, how to conduct business with professionalism, the need to attend training programmes, and how to deal with business creditors.

Three graduates in Tailoring & Dressmaking enterprise are members of more than one association. One is a member of the Federation of Ghanaian Exporters and the Tema Textile and Garment Cluster. Another is a member of the Federation of Ghanaian Exporters, Tema Textile and Garment Cluster, and the Association of Ghana Industries. The third is a member of GNTDA, Tema Textile and Garment Cluster, and the Association of Ghana Industries). Four others are members of GNTDA, which seems to be one of the most dynamic associations of SMEs in Ghana. Van Dijk (1996), for example, found it influential in decision taking, unlike other associations.

Nine graduates in General Electrical belong to the Ghana Institute of Engineers.⁹ One of these also belongs to the Ghana Solar Energy Society. Another graduate in General Electrical belongs to the Project Management Association. Two ICT graduates belong to the Microsoft Certified Solution Developers, one graduate belongs to three associations – the Oxford University Panel for Advanced Mobile Computers, the British Computer Society, and the Ghana Institute of Engineers. One graduate each belongs to the National Society of Black Engineers, the Institute of Electrical and Electronic Engineers (IEEE) and the International Webmaster Association.

Business opportunities opened up through their associations for a few females, as shown in the case histories of Martha H-A, Cynthia O-A., and Becky M. Martha H-A and Cynthia O-A obtained information concerning an international exhibition from the Ghana Export Promotion Council

through one of their associations. This paved the way for them to participate in a few of such exhibitions within the sub-region. So far Cynthia O-A has twice participated in a fair in Namibia, once in Benin and once in Sierra Leone through promotion by the Ghana government. Martha H-A has participated in four trade fairs in Benin and Sierra Leone. Through her association, the GNTDA, Becky M. heard of the Ghana Textile Product Wax Style Competition and she registered for it. She won first place in Tema Region for *Kaba and Slit*, ladies non-*kaba*, and gents' formal and casual wear. Consequently, she represented the region at the national-level competition where she came in second and the overall best for *Kaba*. By virtue of her awards, Becky M. had contract from the by Ghana Textile Product and designed for various departments of the company. Consequently, she gained the confidence and organised her first fashion show.

In a nutshell, the advantages of being an association member cannot be overemphasised. The few graduates who are members of one or more associations, as evident in the case histories, have made some strides in their careers. The associations directly or indirectly paved the way to more business opportunities for them and also helped to reduce the cost of training and retraining as in the case of the Vocational Skills and Informal Sector Support Project programme.

Role Models

Role models present an image of success and achievement, serve as important motivation sources and means of helping young people to 'consider and explore self-employment as a career option' (Kenyon and White, n.d.: 11). The competencies learnt from the role models are technical – doing quality work and conforming to standards (1.7%); financial – prudent financial management, saving and pricing (9.1%); management – training and developing one's self, business expansion, motivation to persevere, against womanising, honesty in business, improving the business, time management and delivering jobs on schedule (23.9%); marketing – to be cautious about selling on credit and to demand part payment; good customer relations, honesty with customers and handling customers well (4.9%). A case in point is presented in Box 6.3.

Box 6.3*Guidance from a role model*

E. Fiafor: His stepmother's eldest brother, a Mr. Ashiagbor, a civil engineer by profession, took interest in his work and started monitoring his technical progress right from his adolescence. He encouraged him to produce products that customers would find attractive. Through his advice, E. Fiafor produced an automatic water control system after studying for his diploma. After E. Fiafor's degree programme, Mr. Ashiagbor, introduced him to his two engineering colleagues and co-workers at S.E. Company as well as some other engineering consultants.

Graduation Ceremonies

Graduation ceremonies are important to Tailoring & Dressmaking graduates. They are organised by zonal groups of the Ghana National Tailors and Dressmakers Association (GNTDA), in this case the groups in the Tema region, for apprentices who are about to complete their period of training. From this network, the graduates have learnt about sewing women's garments, style/design, fixing invisible buttons (56.7%) and management – organisation of the ceremony, and giving good recommendation about the apprentice (26.7%).

Fashion Shows

Sometimes, a fashion show is organised by enterprises as part of the GNTDA graduation ceremony. Individual non-association members also organise fashion shows themselves. Most of the graduates have learnt about styles/designs, for example women's wear (50%) and a few have learnt about quality and neat work – good finishing – from fashion shows.

6.4.2 Trade and Competencies Acquired from Bonding Networks

There are few sectoral variations in the competencies learnt from bonding networks; therefore, the analysis is not based on sectors.

Friends

The technical competencies learnt from friends are: use of a better method, knowledge of software in high demand, mobile computing, system implementation, software development, setting wire, design installation,

programmable logic controller, networking, fault tracing, new styles or designs, styles, and structure (30.6%).

Some other competencies learnt are financial; for example, bookkeeping, savings and financial strategy (9.1%) and management – record-keeping, the need for business expansion, making bulk purchases, time management and the importance of registering the business (25.6%) and marketing – customer care, satisfaction and relationship, handling negative behaviour by customers, and marketing strategies – for example, how to get customers, introduction to prospective customers, exposure to business opportunities and advice to go into retailing (19.9%). Examples of influence of friends are provided in Box 6.4.

Box 6.4

Influence of friends on E. Fiafor and K. Asmah

E. Fiafor: While he was studying for his university diploma, he joined the Engineering Students Association and the Electronic & Electrical Engineering Club. Through the association, he developed friendships with his seniors, juniors and classmates. One of them is Etwire, who is in a similar business. He exchanges ideas with this friend and another one named Bonsu. Etwire, who was once a worker at the then Mobitel (now Tigo), recommended E. Fiafor to the management of Mobitel when the company was having serious problems with its rectifiers. E. Fiafor was given the job after providing evidence of having workspace, which was a condition for winning the job. The latest information from E. Fiafor is that now his enterprise has responsibility for all of Tigo's engineering services in the Greater Accra region. The number of his employees has increased from four to 13 and his enterprise now has bigger premises at Achimota.

K. Asmah: He started by working on his own for 10 months, manufacturing power supply systems, amplifiers, loud speakers, and so on. However, he was not successful because most of the customers were his friends and they bought on credit without settling their debts. Nevertheless, he did not shut down the business.

*Parents*¹⁰

The graduates did not learn any technical competency from their parents; but they did learn management competencies such as having a serious attitude to the business, business expansion, good relationships with subordinates, handling of or caring for employees, time management, delivering jobs on schedule, and having the patience to handle business issues

(28.1%). Some of the competencies are financial: proper handling of money, discipline in the use of funds and cultivating the habit of saving (12.4%); the rest are marketing-related: good customer relations, honesty towards customers, customer care, giving disappointing customers a wide berth, and marketing strategies – making personal contacts and going into retailing (14.9%).

Siblings

The competencies learnt by the graduates from siblings are mostly about management: being serious about the business, record-keeping, training and developing one's self; being wary of (bad) friends, motivation to persevere, handling and managing employees, time management and delivering jobs on schedule (22.5%). Other competencies gained were about marketing: customer relations, care and satisfaction; and marketing strategies – for example, showcasing products and diversifying (12.4%).

The conclusions that can be drawn about the two broad networks are that bonding networks offer mostly management and marketing competencies. The management competencies to a large extent concern advice to have a seriousness attitude to business. The marketing competencies mostly concern care in dealing with customers. Some graduates learnt technical competencies through networking with friends, which may suggest that the friends may be people in a similar sector or in other opportunity networks (except enterprises in different sectors). Despite the learning and the competencies gained, bonding networks can be bad for business, as depicted by the case of K. Asmah. In contrast to the bonding networks, the opportunity networks offered opportunities for the graduates to learn sector-specific or technical competencies.

6.4.3 Networks with and Learning from Business Customers

This sub-section has been separated from other networks because every enterprise has customers and virtually no effort is required to dealing with them. Customers' feedback and the value attached to it may be based on how enterprises perceive their customers. When customers are very demanding, enterprises are challenged to perform above mediocrity, and vice versa. Unfortunately, customers' seeming over-demanding behaviour is sometimes interpreted negatively. Of course, some customers are unnecessarily difficult, but the onus still rests on business owners to go the extra mile to handle them well. A salesperson may behave arrogantly towards a customer because s/he is merely hired labour and may

not care about what happens to the business as a result of his/her negative behaviour. Unfortunately, such behaviour is sometimes exhibited by some business owners, too; they think they are doing a customer a favour. Customers must be seen as something precious that they cannot afford to lose; like an egg that falls and crashes if care is not taken. Some business owners are careless about how they treat customers and they ignore customer's complaints. In most small and medium enterprises, the customers observe the product they want being produced or the service they want being rendered to them; therefore, their feedback needs to be valued highly and incorporated into the job being done where necessary.

Enelow (2008) identifies three types of customers: new, repeat, and referred customers; he advises business owners to take time to get to know each of them and listen to them carefully. 'Then, leverage that information to your advantage by customising your sales presentations to their wants, their needs, and their expectations' (Enelow, 2008: 72).

Firms that are technically progressive are found to obtain knowledge from customers and other sources such as suppliers or to generate the knowledge internally (Malecki, 1991: 119). According to Elhiraika and Nkurunziza (2006) most African SMEs have limited market information because of their inability to monitor trends and changes in consumers' tastes and preferences, consequently losing their shares in the existing market or failing to penetrate into new ones. Kinyanjui and McCormick (2005: 162) found that no less than 59.6% of the garment retailers studied in Nairobi had a relationship with their customers. 'A relationship between small-scale garment producers and garment retailers is evolving gradually. Through these relationships small-scale producers give retailers price discounts and credit. In return, retailers provide MSEs with information about new fashion designs.' Harrington is of the view that the importance of the customer has made customer satisfaction and partnership a critical management issue of late. Customers always demand more; their needs are different from their expectations, which are usually higher, and their 'desire level' is rather extreme. Their satisfaction level is said to be directly proportional to the difference between the perceived performance (not the actual performance) and the customer's expectations (not needs). Some organisations see their customers as being inferior and deal with them as such.

Empirical evidence from this study shows that, with the exception of one KNUST graduate, the rest (99.2%) claimed they interact with their customers by learning from them. Over two-thirds (70.3%) of the gradu-

ates learnt marketing competencies, especially how to deal with their customers. Of these, most learnt about customer needs, satisfaction and care; listening to their feedback, dealing with them honestly, being transparent and able to handle the difficult ones, and getting direction as to where to focus the business (52.1%). Some also learnt about delivering products or services to the customers on time (11.6%), and the rest about handling the customers with regard to financial issues (6.6%). From their experiences they have learnt to demand prompt and part payment from their customers. They are also cautious about pre-financing jobs from the customers. These measures help minimise the customers' indebtedness. To quote one of the graduates in this study, Felicia O.: 'They always want to cheat you; it has helped me to be smart by demanding full payment before delivering the garment.'

Other competencies learnt from customers are technical; some concern doing quality work and conducting business with professionalism (10.7%) and the rest are about customers alerting them to new products or technology, new styles, and new designs (12.4%). For example, customers influence the process and product development of some ICT graduates. A general electrical graduate learnt other uses of the photocell; a tailoring and dressmaking graduate learnt about colour blending in designing a garment; and a graduate in carpentry and joinery learnt about moulding a kitchen cabinet. A few also learnt about the need to save money in a bank account (2.5%) and received encouragement to carry on with their business (3.3%).

To conclude, customers are important stakeholders in every enterprise; the graduates in this study see the number of customers as their most important success indicator. With them being end users of product and services, their views are crucial learning inputs for improvement of enterprise performance. The enterprises have mostly learnt marketing competencies from their customers – how they should satisfy their customers by being honest with them, sticking to delivery date and time, ensuring quality in their products and services. They have also learnt how to deal with negative behaviour by customers, especially those who default on and delay payments, by demanding part payment before starting to work on the job and full payment before final delivery.

6.5 Competence and Success Levels, Employment Type and Networks

This section examines the relationship between the networks and the competence and success level of the enterprises, and the types of self-employment.

6.5.1 Networks and Competence Level

Appendix A6.1 shows a relationship between types of network and competence level. Two opportunity networks – one's *association* membership and attendance at *training events* – are related to the following competencies: marketing, management and technical (all together); general (management and marketing); management; and marketing. There also exists a relationship between *role models* and management competence, then marketing competence and general competencies. Between marketing competence and *enterprise in a different sector*, too, there is a relationship. In sum, the more competent enterprises have more opportunity networks – *enterprises in a different sector*, *role models*, attendance at *training events* and *association* membership.

6.5.2 Networks and Level of Success

In this study, *association membership* is found to have a relationship with level of success. A larger percentage of *association* members (26%) is more successful than non-*association* members (6.8%). The observed differences are statistically significant (0.019) at 5% significant level. Similarly, a larger percentage (25.9%) of *association* members increased their profits than non-*association* members (5.0%). The observed differences are statistically significant (0.012) at 5% significant level. In sum, there is a relationship between enterprise success and *association membership*; membership of an *association* opens up more business and learning opportunities, which confirms the finding of OECD (2003).

6.5.3 Network Type, Network Size and Self-employment Type

The relationship between the two self-employment types (own-account workers and entrepreneurs) was also analysed in this study. A larger percentage of entrepreneurs (55.3% or 26) networks with more (at least four) opportunity networks than own-account workers (23.0% or 17). All graduates who network at all levels (3) are entrepreneurs. The observed

differences are statistically significant (0.002) at 5% significant level. A slightly larger percentage (62.2% or 46) of own-account workers than entrepreneurs (57.5% or 27) use bonding networks. The observed differences are not statistically significant. As shown in Table 6.6, a larger percentage of entrepreneurs attend *training events* and *trade fairs* and belong to *associations* than own-account workers, and vice versa. The observed differences are statistically significant. It is clear from the above that entrepreneurs make use of opportunity networks more than own-account workers do.

Table 6.6
Network types by type of self-employment

Network	Type of Self Employment		P-value
	Own-Account Workers	Entrepreneurs	
Training events	14.9%	46.8%	*0.000
Trade Fairs	56.8%	76.6%	**0.043
Associations	10.8%	31.9%	*0.008

*Significant at 0.01

**Significant at 0.05

In conclusion, entrepreneurs have more opportunity networks, attend training events and trade fairs, and belong to associations than own-account workers do. It is the opportunity networks that entrepreneurs and own-account workers need more to make a difference in their enterprises.

6.6 Learning from Communication and Mass Media

6.6.1 Introduction

The importance of communication and mass media cannot be underestimated.

The mass media are often associated only with entertainment...and seen as rather marginal to most people's lives. Such a view is a partial one, however, mass communications are involved in many other aspects of social activities too. Media like newspapers or television have a wide-ranging influence over our experience and over **public opinion**. This is not just because they affect our attitudes in specific ways, but because they are the means of access to the knowledge on which many social activities de-

pend....Only a complete hermit could be completely detached from the 'news events' which impinge on all of us – and we might well suspect that a twentieth-century hermit would possess a radio (Giddens, 1997: 364)!

Smith (1985: 131) observes that a variety of programmes for either educational or aesthetic purposes are being offered by television and radio. Learning from the programmes requires more than attention, and to enrich viewing or listening experience follow-up is necessary. In his view, radio as a learning source is often overlooked and taken for granted for reasons such as the compelling power of television. However, conscious effort is required to learn from communication and mass media, bearing in mind that the media also carry information that may be irrelevant to the learning objective. 'Gleaning the most learning from mass media requires approaching the art of listening and viewing in much the same way that the skilled reader usually approaches a book – actively and critically' (Smith, 1985: 132).

Freedom of expression has brought with it an increase in the number of communication media in Ghana, especially the print media, made up of the daily and weekly newspapers, FM radio, and TV in all regions within the last decade. The Internet, too, is accessible, especially by people living in cities and big towns.

Nuoriyee (2005) gives the breakdown of some of the communication services: 140 authorised FM stations, of which 84 were operational. As at December 01, 2005, there were 331,000 fixed telephone lines, 2,655,000 mobile phones lines and 11,037 payphones. Having a fixed phone line or a mobile phone no longer imparts prestige.

In an address to the Ghana Journalists Association on 18 August 2007, the Most Rev. Charles G. Palmer-Buckle, Metropolitan Catholic Archbishop of Accra, told his audience: 'The sole purpose of your vocation and mission in the media is to bring about life, the abundance of life to the individual, to the society, to the government and the governed.' He added:

Are we really informing our readers, viewers and listeners? Are we educating the general public on issues? Are we really entertaining them? If we are doing all these, what are we really 'informing' them with? Good or bad news? What are our children, our students and young people, the masses learning from our TV programmes, adverts and news items? Virtues or vices? Occultism and neo-pagan cultures? What is the constant fare on our radio talk-shows? Wholesome courses that nurture love for neighbour and for country, or hate-filled invectives at personalities and venomous exple-

tives at our institutions? Acrimonious criticisms and tension-filled intractable and entrenched political positions? (Palmer-Buckle, 2007: 5)

Appiah et al. (2002), who explored the benefits of the *M'Adwumanyi* radio programme on the Kumasi radio station Kapital FM for improvement in business performance of individuals, concluded, *inter alia*:

- Participants recounted many instances where the radio programme had positively influenced their business practice (for example, through improved bookkeeping practices, better purchasing policies, reinvesting of profits, separating business from personal finances and improved customer relationship management). From the knowledge and experience captured in such participant comments, Appiah et al. (2002) concluded that there *is* a causal link between listening to *M'adwumanyi* and improved business performance.

The benefits to the community as a whole are as follows:

- *M'Adwumayi* provides an advocating voice for the MSE community (for example in dealing with local issues and local services such as utilities and infrastructure).
- *M'Adwumayi* uniquely offers non-written information at no cost for the local MSE community (50% of whom are thought to be semi- or completely illiterate).
- *M'Adwumayi* offers a *route to market* for organisations such as the National Board for Small Scale Industries.
- *M'adwumayi* has helped promote business development and entrepreneurship more generally into new and potentially influential sectors (for example, NGOs and churches)

The importance of the media to enterprise development in Ghana should not be over-emphasised, but as Palmer-Buckle (2007: 7) stated, '[I]t is our responsibility to make sure that whatever goes for media consumption is wholesome and will give strength of character to our children, our youth and to society as a whole.'

The media in Ghana can have considerable positive impact on the development of enterprises, especially the micro and small-scale ones which may find it difficult to attend expensive training events, by providing them with valuable information. This study explored the extent to which the graduates learnt from the various communication media. The communication and the mass media in question are FM radio, television, newspapers, magazines and catalogues and the Internet. This section

analyses the extent to which the graduates in enterprise make use of the communication and mass media in Ghana as additional sources for competencies. The analyses that follow are based on responses elicited from the graduates to the question of whether they learnt from the various media and if so the business competencies that they learnt.

Table 6.7
Learning from communication & mass media by IHC

Media	Initial Human Capital			
	KNUST	TTI	TAT	Total
FM Stations	14 (21.2%)	25 (37.9%)	27 (40.9%)	66 (100.0%)
Television	17 (21.8%)	31 (39.7%)	30 (38.5%)	78 (100.0%)
Newspapers	18 (34.6%)	19 (36.5%)	15 (28.8%)	52 (100.0%)
Internet ^a	30 (75.0%)	6 (15.0%)	4 (10.0%)	40 (100.0%)
Magazines or Catalogues ^b	20 (24.1%)	33 (39.8%)	30 (36.1%)	83 (100.0%)

^aAs mentioned in relation to learning from suppliers, most KNUST graduates, especially those in ICT, said they do not have suppliers and so resort to the Internet for information on software development and other ICT-related topics.

^bThis trend is as expected since most graduates in Tailoring & Dressmaking and Carpentry and Joinery use them. Most of those graduates rely on these sources for the styles or designs, which they either adopt or adapt. Some of those in Carpentry and Joinery keep a picture catalogue of some of their work to show to prospective clients.

6.6.2 IHC and Learning from Communication & Mass Media

This sub-section discusses the communication and mass media from which the graduates with various initial human capital endowments learnt certain competencies that have impacted on their enterprises. Table 6.7 shows the percentage of graduates who learnt from the various communication and mass media and Appendices A6.2, A6.3 and A6.4 illustrate the types of FM station, TV station and newspaper, respectively, that the graduates use. From Table 6.7 and the above appendices we can conclude that:

- There is a relationship between higher initial human capital endowment and use of the Internet as a learning source.
- There is a relationship between lower initial human capital endowment and use of FM stations as a source of learning.
- TTI graduates make more use of television, newspapers and magazines or catalogues than their counterparts.

- The FM radio listened to by most graduates is Joy FM, followed by Adom FM and Peace FM. A slightly larger proportion of TTI graduates than TAT graduates listened to Joy. Appendix A6.2 shows the FM radio stations used by graduates with various initial human capital endowments.
- The graduates mostly learnt from TV3, followed closely by GTV.
- The newspapers often read are *Daily Graphic* and *Mirror*. This is as expected since the *Mirror* features garment designs which are of interest to TTI and TAT graduates who are in Tailoring & Dressmaking. The observed differences are statistically significant (0.009) at 5% significant level.

Table 6.8
Use of communication & mass media by sector

Media	Sector					Total
	ICT	ER	GE	T&D	C&J	
FM Stations	10 (15.2%)	9 (13.6%)	15 (22.7%)	20 (30.3%)	12 (18.2%)	66 (100.0%)
Television	11 (14.1%)	8 (10.3%)	15 (19.2%)	22 (28.2%)	22 (28.2%)	78 (100.0%)
Newspapers	14 (26.9%)	4 (7.7%)	7 (13.5%)	22 (42.3%)	5 (9.6%)	52 (100.0%)
Internet ^a	20 (50.0%)	-	12 (30.0%)	5 (12.5%)	3 (7.5%)	40 (100.0%)
Magazines or Catalogues ^b	12 (14.5%)	2 (2.4%)	17 (20.5%)	28 (33.7%)	24 (28.9%)	83 (100.0%)

^aAs mentioned in relation to learning from suppliers, most KNUST graduates, especially those in ICT, said they do not have suppliers and so resort to the Internet for information on software development and other ICT-related topics.

^bThis trend is as expected since most graduates in Tailoring & Dressmaking and Carpentry and Joinery use them. Most of those graduates rely on these sources for the styles or designs, which they either adopt or adapt. Some of those in Carpentry and Joinery keep a picture catalogue of some of their work to show to prospective clients.

6.6.3 Sectoral Learning from Communication & Mass Media

This sub-section analyses the proportion of graduates from each trade who learnt from the various communication and mass media and the main competencies that they learnt.

As shown in Table 6.8, most of the graduates who learnt from FM stations are in Tailoring & Dressmaking and General Electrical. A large percentage of those who learnt from *television* are in Tailoring & Dressmaking and Carpentry & Joinery. Tailoring & Dressmaking graduates also constitute a large percentage of those who learnt from *newspapers*, followed sharply by those in ICT. Half of those who made use of the

Internet are from ICT (all of those in ICT use it), followed by those in General Electrical. Finally, Tailoring & Dressmaking graduates, followed by those in Carpentry & Joinery, comprise the largest percentage of graduates to learn from catalogues or magazine. For the last three media – *newspapers*, *Internet* and *catalogues or magazines* – the observed differences are statistically significant (0.000) at 5% significant level. Overall, the graduates in Electrical Rewinding constitute the smallest percentage learning from all the five media.

The following are the specific competencies that the graduates mostly learnt from the various media:

- *FM Radio* – Most of the competencies learnt were management-related; for example, managing the business (ICT), managing the business and motivational skills (Electrical Rewinding), motivation and handling business parties (General Electrical), success stories and self-development (Tailoring & Dressmaking) and motivation and planning (Carpentry & Joinery).
- *Television* – Mostly management and technical skills were learnt; for example, IT technology, success stories and management (ICT), success stories and management (Electrical Rewinding), new technology and success stories (General Electrical), garment styles and success stories (Tailoring & Dressmaking) and new furniture designs, success stories and managing the business (Carpentry & Joinery).
- *Newspapers* – Mostly management and technical competencies were learnt; for example, managing the business, leadership and entrepreneurship (ICT),; finance and management (General Electrical) and garment styles (Tailoring & Dressmaking).
- *Internet* – All the graduates who made use of it learnt technical competencies. For example, ICT graduates mostly learnt about software development, website formats and supplies, and emerging technologies; the few Tailoring & Dressmaking graduates learnt about garment styles; the Carpentry & Joinery graduates learnt about new software for designing and new door designs.
- *Magazines or Catalogues* – The graduates mostly learnt technical competencies. ICT graduates learnt about emerging technology, prices of products and technical practices; Electrical Rewinding graduates obtained information about electrical gadgets and making motor connections; General Electrical graduates learnt about new technology, product capability, tools and machines; Tailoring & Dressmaking

graduates learnt about garment styles; Carpentry & Joinery graduates learnt about designs, for example, cabinets, mouldings and measurement.

In conclusion, the number of graduates that use the various communication and mass media is quite low. The least used is the *Internet*, followed by the print media, and for both media the largest percentage of graduates using them are from KNUST, followed by those from TTI and then those from TAT. *Catalogues or magazines* are the most widely used, followed by *television* and lastly *FM radio*. For *TV* and *catalogues or magazines*, TTI graduates constitute the largest percentage of users, followed by TAT and lastly KNUST. TAT graduates form the largest percentage to learn from *FM radio*, followed by TTI graduates and those from KNUST. Thus, it appears that, when it comes to gleaning and reading, those with the highest level of education have an advantage over those with the lowest level of education. The results may also reflect the learning preferences of graduates with different levels of education.

By sector, the largest percentage of graduates who learn from *FM radios*, *newspapers* and *magazine or catalogues* are in Tailoring & Dressmaking. For *TV* and the *Internet*, the largest proportion is in ICT.¹¹

Various competencies were learnt by the graduates from the communication and mass media, most of which are sector-related. From FM radio, the competencies learnt by graduates in all sectors are generally management-related. They include learning from the success stories of other business people, encouragement and motivation to persevere, and financial prudence. From television and the newspapers, the graduates learnt about emerging technologies in the various sectors; for example, new garment styles for those in Tailoring & Dressmaking and new furniture designs for those in Carpentry & Joinery. Success stories from these sources were also instructive. From the Internet, the graduates mostly learnt sector-specific competencies. Those in ICT used it most. This can be explained by the fact that they claimed they did not deal (directly) with suppliers; so any information they needed about software development or web design was obtained from the Internet. Finally, the competencies learnt from *magazines* or *catalogues* were mostly technical or sector-specific; for example, styles in vogue, new furniture designs, emerging technologies, and global business trends.

6.7 Conclusion

After their initial human capital endowments and learning the trade, graduates in enterprises still need lifelong learning because of the dynamic nature of the business environment – for example, customers' and clients' insatiable needs and over-demanding behaviour, new technologies, and local and foreign policies. The principal questions pursued in this chapter were: To what extent do enterprise learning networks differ for graduates (enterprises) with different initial human capital endowments, and to what extent do they impact on the performance of the enterprises? One approach to lifelong learning is through networks, which are social resources on which enterprises can draw to access the competencies they need to improve their performances and achieve their objectives. Although enterprises collaborate through networks, there may be instances when needed information may not flow as expected because of unwillingness of other enterprises to provide it.

This study focuses on two broad learning networks – opportunity networks and bonding networks. Opportunity networks consist of enterprises in similar as well as different sectors, attendance at training events, trade fairs, association membership, role models, graduation ceremonies and fashion shows. They are deliberate interaction with people *solely* for learning from or exchanging ideas with them. Bonding networks are made up of friends, parents and siblings and are defined as interaction with people because of either their blood or social relations and from whom business ideas *may* be obtained.

Analysis showed that the tendency to have large opportunity network size is associated with the highest initial human capital endowment and level of education, whereas large size of bonding networks is associated with the lowest initial human capital endowment and level of education. Specifically, enterprises of graduates with the highest initial human capital endowment and with the highest level of education attend training events and join associations more than those with the lowest initial human capital endowment (TAT) and those with post-basic education, who rely on their *siblings* for information more than those with higher endowments. Generally, these graduates hardly attend *training events*. However, by sector, ICT and General Electrical graduates attend *training events* more than graduates in other sectors; graduates in Tailoring & Dressmaking also attend *trade fairs* more than any other group of graduates.

Other findings were that the enterprises learnt mostly technical competencies through networking with *enterprises in similar sectors*, and from the *different enterprises* they learnt mostly management and financial competencies, followed by technical and marketing competencies. The technical competencies are related to complementary products and services. Only a few graduates belonged to an *association*. Those were from Tailoring & Dressmaking, General Electrical and ICT. Most of those are members of one association and a few belong to three associations. Some of the ICT graduates are members of international associations or professional bodies. General Electrical, ICT and Tailoring & Dressmaking graduates belong to *associations* more than the others. Generally, and except Tailoring & Dressmaking graduates, more use of opportunity networks means less use of bonding networks, and vice versa. Through the *association*, a few Tailoring & Dressmaking female graduates were able to attend some trade exhibitions in other African countries. The study has shown that there is a relationship between enterprise success and *association* membership; graduates belonging to an association are more successful than non-association members.

From *graduation ceremonies*, Tailoring & Dressmaking graduates mostly learnt new technical competencies, especially styles, and a few learnt about the organisation of such ceremonies and the need to protect their apprentices. Related to graduation ceremonies are *fashion shows*, from which Tailoring & Dressmaking graduates learnt technical competencies – mostly styles and quality work.

Unlike the other bonding networks from which mostly management and marketing competencies were learnt, technical competencies as well as the two general competences were also learnt from *friends*.

Customers are valuable sources of information to the graduates; their inputs are considered in product design and service provision. Some graduates have learnt to demand part payment before starting a job and full payment before final delivery.

Regarding the relationship between networking and competence level, the finding is that the more competent enterprises network with opportunity networks (*enterprises in a different sector, role models, training events* and *association* membership).

There is a relationship between networks and the type of self-employment; entrepreneurs attended more *training events* and *trade fairs*, and belonged to *associations* than own-account workers. It is clear that entrepreneurs use opportunity networks more than own-account workers.

Improvements in the communication and mass media have facilitated self-directed learning by the graduates. The choice of media is influenced by the graduates' educational background – initial human capital endowment. Whereas those with the highest level of education mostly learnt from the Internet and newspapers which generally require reading. The other graduates learnt from FM radio, TV and catalogues or magazines, that is mass media. The choice may also be influenced by learning preferences. The relevance of the programmes and content presented in the media has a bearing on the choices that the graduates make concerning those that they make use of.

All networks do not provide the same information; therefore, having different networks, especially the opportunity ones, contributes to enterprise success. Opportunity networks are also more reliable as sources of all the three main competencies – technical, management and marketing. The networks also provide insight into the learning preferences of the graduates with different initial human capital endowment. Graduates with the highest initial human capital endowment learn through *Internet* search, *association* membership and attendance at *training events*, whereas those with the lowest initial human capital endowment learn by imitation, for example from *magazines* or *catalogues*.

Notes

¹ 'Subcontracting refers to user-producer relations, a form of non-equity arrangement between firms in which goods and services are provided according to the specifications of the user' (Oyelaran-Oyeyinka, 2003: 11).

² A very important source of learning for the graduates is on-the-job experience.

³ Negative attitudes to training exist even in large public and private organisations. For example, sometimes organisations send their staff for training towards the end of the year in order to spend the rest of the annual budgetary allocation. Also a person may be chosen to attend training at the whim of his/her boss and not necessarily on the basis of identified training needs.

⁴ This relatively low networking with role models contrasts with the large percentage of the graduates (85.1% or 103) who have role models.

⁵ Internship and engagement in wage employment may continue to be sources of information to those who have gone through them and those who are currently in dual employment through their contacts with people in the organisations for which they worked.

⁶ The mean is 2.95, the median is 3.0 and the standard deviation is 1.40473.

⁷ The mean is 1.84, the median is 2.0 and the standard deviation is 0.90377.

⁸ The staff of K. Asmah's enterprises have benefited from training organised in South Africa and Ghana by the four equipment manufacturers he deals with.

⁹ E. Fiafor joined the Ghana Institute of Engineers after the degree course at the university, but he did not find the association helpful because of the seeming apathy there as well as the large membership. 'You hardly get the sort of help you want. I got some journals but social networking was nil. It is this time that the association has been reorganised and the chances of benefiting in future are there.' He says he has benefited from the Ghana Solar Energy Society because of the ongoing exchange of ideas in that field.

¹⁰ 'No discussion of human capital can omit the influence of families on the knowledge, skills, values, and habits of their children. Parents affect educational attainment, marital stability, propensities to smoke and to get to work on time, as well as many other dimensions of their children's lives' (Becker, 2008: Human Capital – The Concise Encyclopedia of Economics)

¹¹ The various communication and mass media used also may be influenced by the relevance of their programmes or content to the graduates. Joy FM, Adom FM and Peace FM are the radio stations from which the graduates mostly acquire competencies. In the case of TV, the stations considered useful are TV3 and GTV. The *Daily Graphic* is the newspaper they mostly learn from, followed by *The Mirror*.

7

Concluding Reflections

7.1 Introduction

This final chapter focuses on the key findings and how they challenge existing theories and generate new insights, as well as policy implications for entrepreneurship formation, enterprise learning and enterprise development in Ghana and elsewhere in the developing world. In addition to the issues related to the research objectives and questions that guide the study, there are other issues that are worth considering.

The central argument of the thesis is that entrepreneurship cannot be generated only through universal primary education but also needs higher levels of education. University graduates are an important source of entrepreneurship for at least two reasons: as a primary order effect of creating employment and a second order effect of contributing to the formation of other types of entrepreneurs. In this sense, universal primary education is necessary but not sufficient. Secondly, enterprise formation is not something that occurs by default or something that people do as a second choice; people have the drive to do it. For most people, wage employment is a second choice – you engage in it as long as you need it to develop your own enterprise; it is transitory. This makes the issue of agency critical to this research. By exercising their agency, individuals follow different employment pathways. They also acquire and renew their competencies. Agency is dynamic.

It is important to point out at this juncture the significance of endogenous factors in enterprise development. The thesis has focused on endogenous factors, which can help the enterprises address the exogenous challenges they encounter. Theories of small enterprise development, especially in developing countries, differ with respect to their areas of focus, with much attention being paid to exogenous factors. Even though recognition is given to the fact that the studied enterprises have chal-

lenges most of which relate to exogenous factors (for example, lack of financial assistance in the form of loans; high prices and unavailability of machines, equipment, accessories and raw materials; high taxes, lack of government support and quality standards), this study concentrates on endogenous factors, with enterprise competencies as the main focus, and examines how graduates with different initial human capital endowments acquire and renew their enterprise competencies through lifelong learning from enterprise learning networks and thus make a difference in their performance. The study posits that enterprises need competencies to cope with the exogenous factors such as responding to the characteristics of the market in order to succeed; as Malecki (1991: 114) puts it, ‘...competence to discover, select, adopt, utilise, learn, and improve new technology is a key determinant of economic success of firms...’ The focus on competence is also important because the basis for competition has changed from the price competition favoured by neo-classical economists to quality competition, which hinges on acquisition and renewal of competencies through learning.

In the light of the foregoing, the thesis draws on various strands of theory such as on small enterprise development, competence theory of the firm, technological capability theory, human capital theory and network theory. The thesis has stressed several issues some of which are outlined below:

- First and foremost, the study is based on the premise that enterprise formation by the Ghanaian graduates is a more a viable employment alternative than an option of last resort. Thus, entrepreneurship and enterprise development are not only a response to the structure of and trends in the labour market, but a question of attitude and agency. Agency becomes a dominant perspective in this case without necessarily doing away completely with the issue of structure which writers like Baah-Nuakoh (2003) believe is the most influential factor that drives people into entrepreneurship.
- The graduates have different initial human capital endowments or levels of education and this expresses itself in differences in agency. They followed different pathways; through agency, the enterprises of the graduates have experienced different ‘transitions’ from their formation to date.

-
- The graduates were asked to express their own conceptions of enterprise success, which were used as the basis for assessing their performance instead of using the traditional accounting ratios.
 - The enterprises operate in a knowledge-based economy in which there is rapid technological development. For this reason, Ghana needs enterprise owners with high initial human capital endowment who have learnt to learn and can use informal learning mechanisms.
 - The study used experts who are business practitioners in the same sectors as the graduates to define the technical (sector-specific) and general (marketing and management) competencies necessary for enterprise success.
 - In pursuit of lifelong learning, and on the basis of their initial human capital, the graduates learnt from either opportunity networks or bonding networks.
 - Individuals have their own learning preferences and therefore learn differently.
 - Marketing and management competencies complement each other to bring about enterprise success.
 - Some pathways lead to better enterprise performance than others.

7.2 The Pathways

The literature discusses various pathways, some of which have been elucidated in Chapter 3, but the studies often analyse pathways from the point of initial human capital formation to the entry point of wage or self-employment. The novelty of this thesis is that, as shown in Figures 7.1 and 7.2, in a single study it has analysed the way individual enterprises have changed over time, by *inter alia* exploring the dynamics that go on when an enterprise is formed. By so doing, it has revealed that there are different pathways for graduates with different initial human capital endowments and with different levels of education. It has argued that dual employment is a stage of ‘transition’ rather than the final stage and that over time it is transformed into full self-employment. In this way, an entrepreneurial status comes with time, although a few graduates start their business as entrepreneurs.

The study of pathways of the graduates after acquisition of their initial human capital endowment has revealed that there are four different entry points into the labour market among the graduates, namely wage em-

ployment, self-employment as own-account worker, self-employment as an entrepreneur, and lastly dual employment as own-account worker. The graduates may choose different entry points, but their ultimate goal is self-employment, not as a mere own-account worker but as an entrepreneur. In the two figures, the darker the shaded area, the more inclined the graduate is to wage employment, and the lighter the area, the more inclined the graduate is to self-employment as an entrepreneur.

The figures suggest that the enterprise pathway is not uni-linear, especially in a situation where some graduates begin with self-employment and then venture into dual employment by taking up wage employment in addition. One would have expected that, having started with self-employment, there would be no need to take on wage employment in addition as that could be interpreted as a regression in the path. This kind of transition may result from insufficient turnover in the self-employed enterprises, the need for capital and clients, search for knowledge and employment security, and so on.

Although this is not a longitudinal study, it was able at least to determine the number of years that elapsed from one entry point to another. This helped to reveal that even though starting with wage employment appeared a broader range, it was also one of the shortest paths, in that after graduates had been in wage employment for an average of four years, a large proportion of them became self-employed as entrepreneurs. Besides, those who moved into dual employment reduced their commitment to wage employment by spreading their efforts quickly and that was when they started concentrating only on their enterprises. This raises two questions. One, if becoming a self-employed entrepreneur is the desired and ultimate goal of the graduates, why do they have first to go into wage employment? The second and related question (which is unanswered in this study) is, can enterprise development not be speeded up by giving the graduates adequate exposure through, for example, internship programmes in the course of acquiring their initial human capital endowment, and assisting them financially soon after their course to enable them to go straight into self-employment possibly to start as entrepreneurs even if with one paid employee? By this, the study is suggesting that if the graduates are to be given assistance to speed up their enterprise formation, that assistance should first and foremost address the competencies with which they can meet exogenous challenges.

Figure 7.1
Pathways: formal and informal education perspectives

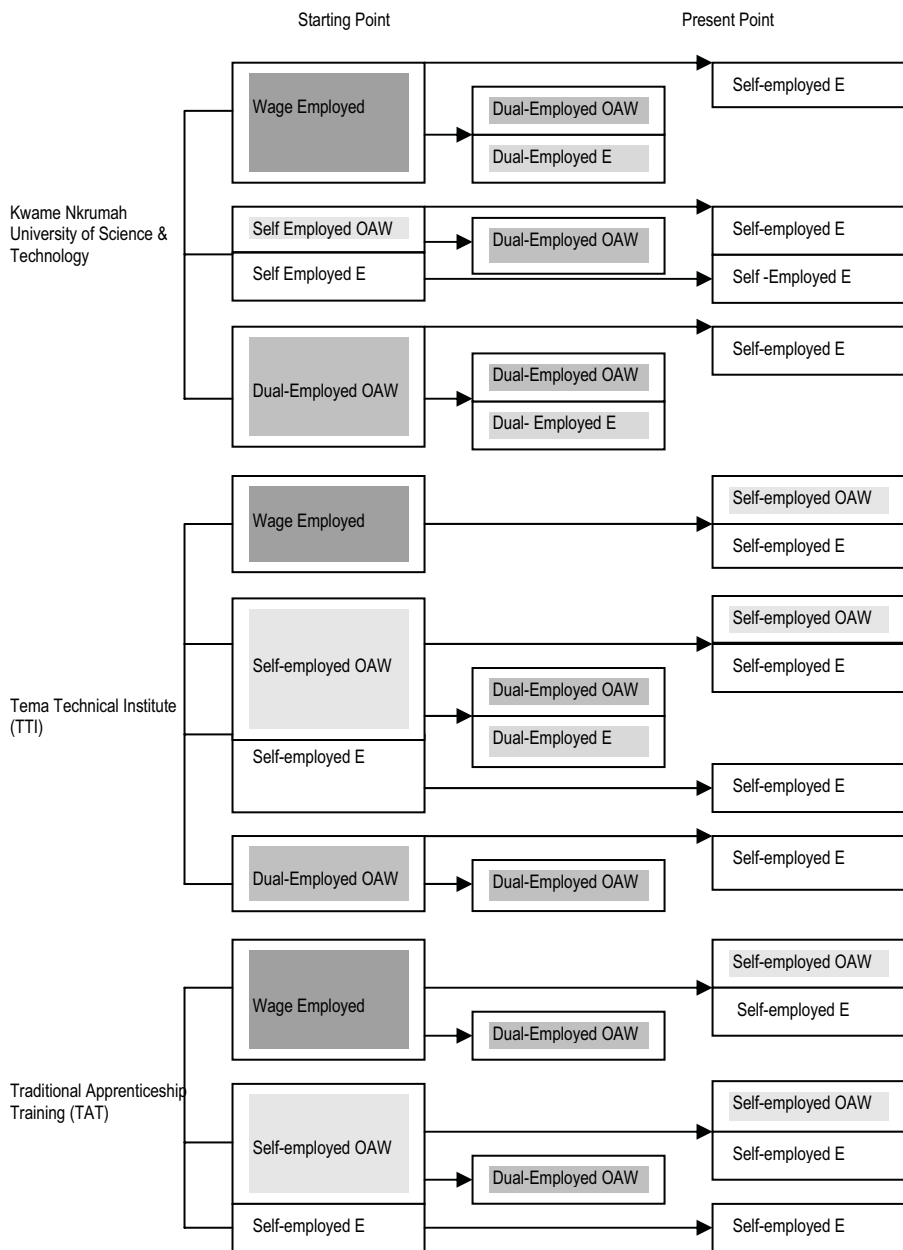
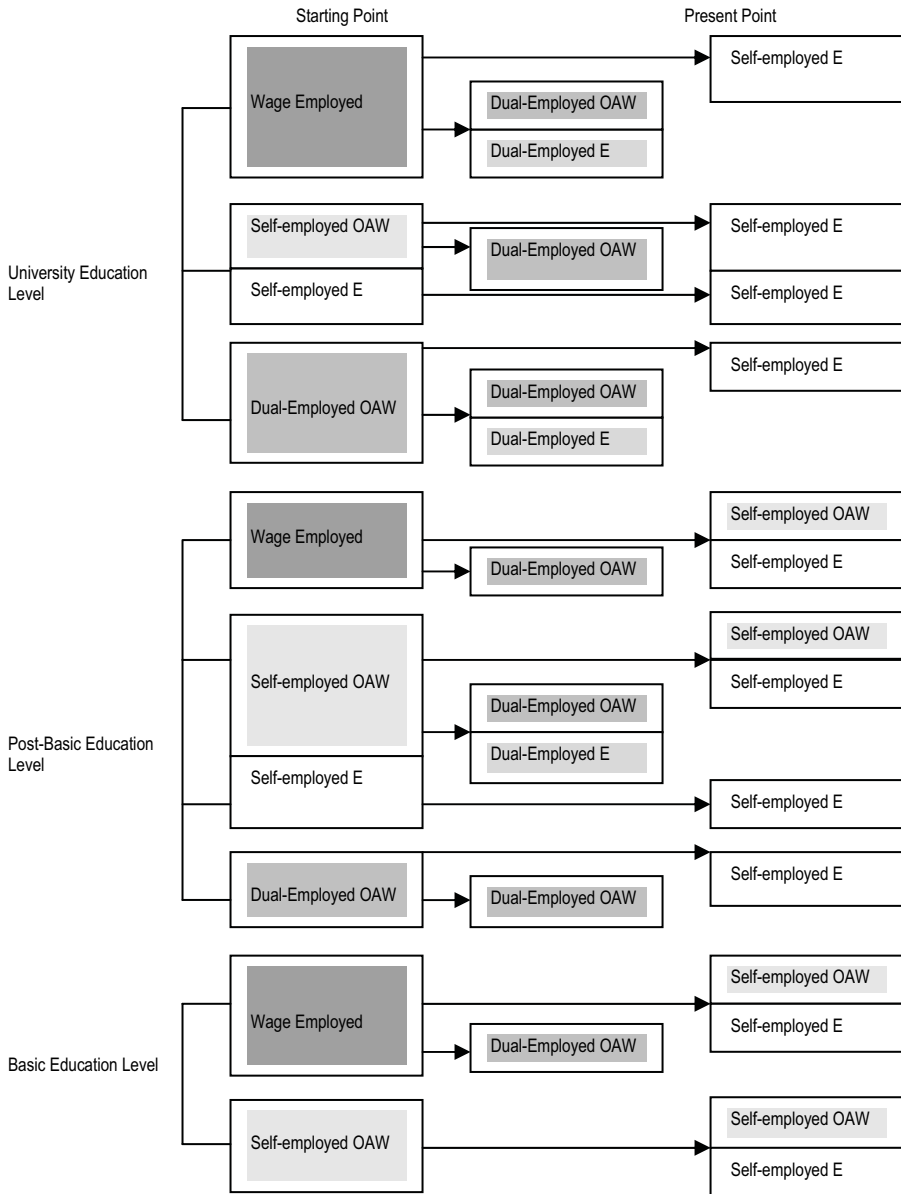


Figure 7.2
Pathways: formal education perspective



7.2.1 Pathways and IHC Endowments

The pathway analysis in Figure 7.1 depicts three employment paths: one for those with informal initial human capital endowments (TAT) and the others for those with formal initial human capital endowments (one for KNUST and one for TTI). None of those with informal initial human capital endowment began the employment journey from dual employment, and also about half of them started as wage earners. This view of apprentices staying in wage employment for years is consistent with the finding of Haan (2003) that even after graduation apprentices receive a minimal remuneration which makes them continue to work with the master or madam to save sufficiently towards establishing their own business. It also supports the claim of Baah-Nuakoh (2003) that after their training, apprentices work as paid employees for some time in order to gain some experience and accumulate enough savings and may then decide to start their own enterprises. Furthermore, this study indicates that when TAT graduates finally go into self-employment, most of them do not immediately become fully-fledged self-employed people as the majority either remain or become merely own-account workers; that is, they do not employ others. In contrast, some of the KNUST and TTI graduates start their working life in dual employment and remain in it. Some (two-fifths), however, progress from own-account workers to become entrepreneurs. The uniqueness of the KNUST graduates is that all those who finally progressed into self employment have become entrepreneurs who employ paid workers.

Pathways from the perspective of formal education alone (Figure 7.2) present a different picture, especially at the post-basic and basic levels. This second look at the pathways from formal education level is important because over half of the TAT have more than basic level of education and it would be unfair to present all of them as one homogeneous group. Graduates with post-basic and basic education start working in wage employment and end up in self-employment, unlike the university graduates who make the transition via dual employment. Besides, a larger proportion of the university graduates become entrepreneurs than those with post-basic education, who in turn have more entrepreneurs than those with basic education.

7.2.2 Pathways and Enterprise Performance

Another pathways issue is their possible influence on enterprise performance, where performance is assessed by looking at the competence and success levels of the graduates. Starting an employment journey as a wage earner appears to be a long route and takes some time; nevertheless, it is associated with making the graduates more competent. Besides, these are the graduates who start in dual employment or self-employment as own-account workers and later become entrepreneurs; they are also the more competent ones. Thus, increase in the level of competence comes over time. Success also comes with travelling the various pathways to becoming an entrepreneur. This makes the issue of relevant exposure in relation to the trade learnt during the initial human capital formation crucial, especially among university (KNUST) and TTI graduates who learn by learning. At the other end of the continuum are the TAT graduates who mostly learn by doing. Unfortunately, they constitute the larger proportion of graduates who are in sectors that are different from what they do in wage employment. This, therefore, questions the kind of ‘exposure’ they acquired during their wage employment, especially with regard to technical competence.

A question that can be asked is: *can the ‘incubation’ period for the KNUST graduates be shortened?* This is because, starting from wage employment and ending up in self-employment, especially as entrepreneurs, is one pathway that leads to better enterprise performance. Through wage employment, the graduates gained most of the competencies that brought them success at last, and most of them are graduates from KNUST.

7.2.3 University Graduates and Employment Creation

It has been established that despite the ‘diversity of pathways’, the graduates either end up or intend to end up as entrepreneurs. Starting an enterprise as an entrepreneur is also more of an exception than a rule. Employment creation is associated with some sectors and the graduates with the highest initial human capital endowment (from KNUST) more than those with lower initial human capital endowment. It is also associated with enterprises in their middle ages (5 to 6 years), contrary to Mead and Liedholm (1998) who found enterprise expansion to be related to the first three years of operation. As Palmer (2005) puts it, higher education is ‘a major pathway of becoming an enterprise owner’. It is also a major path-

way for creating employment for others. By creating employment, the new type of entrepreneurs (university graduates) will transform apprenticeship training, which is known to be the most important source of skills to those working in the informal sector. It has implications for change in entrepreneurship education in Ghana, thereby confirming the assertion of Rogoff et al. (2001) concerning education as facilitating 'more efficient learning' than 'actual business management'.

In the enterprise literature, graduates of TAT programmes are often treated as a homogenous group who are trained by masters and mistresses with a low level of education and who themselves are also TAT graduates. This is far from the current reality found in this research, where graduates with post-basic education, especially from the university, have become owners of MSEs. By implication, enterprise development programmes aimed at increasing the self employability of graduates, especially from the universities, will have trickle-down effect of generating competent wage employees and self employed people.

7.2.4 Different Drivers to Wage and Self-employment

The reasons for enterprise formation are not strictly as structural-related as we are made to believe; for example, by the World Bank's (2006) explanation of inability of young people to work for others. Frazer (2006) also presents self-employment as a last resort for TAT graduates. The picture is somewhat different in this study, where agency plays a dominant role in enterprise formation, in that the graduates are driven into self-employment on the basis of their desire to achieve that which will bring fulfilment in their lives. This confirms the reasoning of Marsden (1990), Thuy et al. (2001) and Szabo (2003) that individuals have the motivation to, and take up the challenge of, forming their own enterprises.

Individuals have different agency and there are different reasons for going into wage or self-employment. The graduates mostly took on wage employment to earn income to be used as capital to support their private enterprises and to gain exposure for their professional development. The reasons for going into self-employment were led by 'bringing out one's creativity', followed by 'seeking independence'. Thus, whereas economic and human resource development reasons are drivers to wage employment, psycho-social reasons drive the graduates into self-employment. Lack of wage employment is not a driving factor for enterprise formation among the graduates, which supports the basic premise of this research,

that agency compels the graduates into self-employment. According to Penrose (1980), for small enterprises in particular, their ‘ambition’ or ‘goal’ may not be different from their personal goals. Profit, which often tends to be the expected outcome, may not be of interest to them or be their overriding objective. This is also related to the graduates’ conceptions of success in enterprise.

The reasons are also related to the graduates’ initial human capital endowment. Most university graduates are in wage employment to earn an income or to obtain capital to support their business, and in addition to gain exposure, experience or professional development. An inference could be that the university graduates have fewer technical and general competencies to start an enterprise immediately. This is a complementary explanation of why the TTI and the TAT graduates have less wage employment.

7.2.5 Learning in Wage Employment

Studies that find graduates staying in wage employment for some time before going into self-employment hardly consider the type of work they do in wage employment. What appears missing in the literature (for example, in Haan, 2003 and Baah-Nuakoh, 2003) is the type of job that the TAT graduates do in wage employment. Unlike with KNUST graduates, the type of job that TAT graduates and to some extent TTI graduates were doing in wage employment was not related to the trade they had learnt during their initial human capital acquisition. Thus, the likelihood of engaging in the same or related job in both wage and self-employment has to do with the level of initial human capital endowment.

It can be deduced that even if the TAT and TTI graduates gained at all from any experience related to competence, they were not related to technical competence as might be the case with KNUST graduates. The study showed that the higher the initial human capital endowment (KNUST) the higher the tendency to transit to dual employment and also do the same or related job in wage employment, and vice versa. By sector, too, graduates from science-based courses (ICT and General Electrical) are well-noted for this.

7.3 Competence Acquisition and Enterprise Development

7.3.1 Competencies that Lead to Success

Running an enterprise requires three essential competencies, namely technical, marketing and management competencies, but they do not all produce the same effects. By default, the enterprises in the study are all deemed to be successful because they have been in operation for at least three consecutive years. However, the criterion used separated the more successful (defined as enterprises that scored more than the median mark) from the less successful ones (defined as enterprises that scored less than the median mark) in terms of changes in number of customers and level of profit. Marketing and management competencies complement one another to ensure an enterprise's success. This relates to the views of Liedholm and Mead (1987), Kyambelesa (1993), Rauch (2000), Mulu-Mutuku (2001), ILO (2003a) and OECD (2003) concerning the significance of management and/or marketing in ensuring enterprise success, survival or growth. The significance of management and marketing competencies in making a difference in the success of micro and small enterprises also confirms the work of Baldwin and Gellatly (2003) who attribute failure of firms to internal deficiencies in core business areas such as management, financing and marketing, with specific causes ranging from lack of managerial knowledge to failure to keep books appropriately and to find an appropriate business location.

The relationship between the competencies and measures of success showed that the more competent enterprises were also the more successful ones, and vice versa. This positive association between competence and success is, though not remarkable, rather intriguing in that it is only the general competencies that make a difference. This suggests that the graduates rely more on general competencies than the technical ones to cope with the enterprise environment. With quality as a factor distinguishing enterprises in competition, technical competencies, which manifest themselves in product and service quality, would have been expected to distinguish the more successful enterprises from the less successful ones. As is evident in the case of ICT, where some of the graduates indicated that some customers did not know what they wanted, a tentative explanation could be that the customers are not well informed about what they buy and therefore may not be too demanding; such a situation encourages incompetence among the graduates. This substantiates the poor business practices of some graduates and may explain why they either

neglected to perform certain quality tasks or used ineffective methods or inappropriate tools to perform them. The explanation that technical competence plays less of a role in competition and hence has less influence on enterprise success is in line with Porter's observation that 'demanding customers' are an important potential source of competitiveness; however, this is not the case in the market where these enterprises operate. Explanations from the case histories support the idea that the customers are not demanding, but as they become informed over time they will start questioning the kind of products and service they have been receiving.

7.3.2 Initial Human Capital, Competence and Success Levels

Irrespective of initial human capital endowment or pathways to enterprise, the study has demonstrated an association between competence level and success. To a very large extent, the graduates with the highest initial human capital endowment (those from KNUST) were more competent than other graduates. In a context where there appeared to be technical incompetence among all graduates, the TTI graduates were more technically competent than the two other groups. It is possible that the way they developed their technical competence gives them an edge over TAT graduates, who solely rely on practical competencies, and the least competent –KNUST graduates, who might have acquired mostly theoretical knowledge. TAT graduates are more competent than TTI graduates when it comes to general competencies. This may be because the general competencies to a large extent form part and parcel of apprenticeship training, more so than the training offered by TTI. It may also be that TAT graduates in the study are somewhat different from the 'normal' TAT graduates we know who are trained by masters and mistresses who themselves are products of TAT.

In terms of technical practice, all graduates were found wanting. Although they had acquired technical competencies, they did not put them into practice; this may be a serious attitudinal issue affecting level of competence. Generally, KNUST graduates were more competent than the rest of the graduates. The results for TTI and TAT graduates are somewhat mixed and depend on the sector. Finally, technical competence is necessary but not sufficient for success in enterprise.

In terms of success levels, generally the KNUST graduates were more successful than TTI graduates; TAT graduates were the least successful. In terms of the highest level of education, however, the trend was the

same as for competence levels. This is not surprising due to structural or external factors that could also influence success.

7.4 Learning, Networks and Media

7.4.1 Learning and Networks

Two broad enterprise learning networks have been identified in the study, namely opportunity and bonding networks. Opportunity networks are deliberate interaction with people *solely* for reasons of learning from or exchanging ideas with them. They consist of *enterprises in similar and different sectors*; attendance at *training events, trade fairs, graduation ceremonies, fashion shows*; role models and *association membership*. Bonding networks are interaction with people because of either their blood or social relations and from whom business ideas *may* be obtained. They comprise *friends, parents and siblings*. By their nature, opportunity networks require more effort on the part of the enterprise (owner) to create them and they also require deliberate effort to seek to learn from them. Without that no learning can take place. In contrast, learning from bonding networks comes on a silver platter. Bonding networks can be very beneficial for most of the graduates; virtually all the mothers of the graduates have enterprise experience, most of them as own-account workers, and about a third of the fathers have enterprise experience, a little over half of them as entrepreneurs. However, graduates whose parents do not have any enterprise working experience may give advice that does not reflect the business reality on the ground.

In bonding networks, business advice is given even when unsolicited; it is given when the person concerned considers it necessary. Thus, while learning from opportunity networks is demand-driven, learning from bonding networks is supply-driven. The use of networks by the enterprises shows their importance to Ghanaian MSEs. Marsden (1990: 12) finds modern African entrepreneurs to be individualistic despite their recognition of the importance of collective behaviour; ‘...they are open to new ideas and are continually searching for self-improvement through contacts with suppliers, customers, and other entrepreneurs in the same field. They also keep up to date by reading trade journals and attending to trade fairs.’

This thesis has analysed how graduates with different initial human capital endowments engage in networks and the focus has been on networks as a competence resource. The level of education and initial hu-

man capital endowment determine the type of network that is employed. The tendency to have large opportunity networks (especially training and associations) is associated with the highest initial human capital endowment and the highest level of education, whereas large size of bonding networks (especially with siblings) is associated with the lowest initial human capital endowment and lowest level of education. This is consistent with the finding of Kinyanjui et al. (1997: 1105) that ‘more education gives entrepreneurs additional skills and opens up higher level professional networks that can be tapped when the need arises.’

Networks do not all provide the same information; therefore, having a variety of networks is an asset. Notwithstanding this, more use of opportunity networks means less use of bonding networks, and vice versa. Irrespective of sector, technical competencies are mostly learnt from opportunity networks. This is with respect to *enterprises in similar sectors, training events, trade fairs, graduation ceremonies and fashion shows*. Biggs and Raturi’s (1997: 34) assert: ‘A large part of technology, both new production processes and products, involves uncodified knowledge: rules of thumb acquired only with experience and via sustained interaction with the people and institutions embodying this know-how.’ Bonding networks generally provide competence learning in management, finance and marketing rather than technical competencies, and they mostly concern advice on the need to run the enterprises efficiently.

This study differs from Long’s (2001: 150) description of networks:

The two sectors of an entrepreneur’s network become especially significant for the flow of information brought to bear on different types of decision. Information pertaining to strategic decisions – that is, concerning changes in the branch of economic activity pursued or relating to new forms of investment – generally flows through a series of relatively weak ties that form part of the extended network, and not through relationships where there is a high degree of interaction and normative consensus. On the other hand, information on the availability of basic resources or inputs necessary for the everyday operation of an enterprise will tend to flow between persons whose ties are strong and consolidate (for example, as between traders and transporters).

From the case analysis in Chapter 6 and the case histories, decisions concerning the need to diversify or expand a business often come from bonding networks with which the graduates form ‘strong’ ties. Technical or sector-specific information mostly comes from opportunity networks or ‘weak’ networks.

7.4.2 Networks and Performance

Networking and competence level are positively associated. To varying degrees, the more competent enterprises network through *training events* and *associations*, followed by *role models* and lastly *enterprises in different sectors*. Of these networks, it is only *business associations* that have a relationship with enterprise success. This confirms the finding of OECD (2003) that a positive relationship exists between membership of an association and business success.

It is also evident that growth of enterprises (that is, being an entrepreneur) is associated with 'higher' or opportunity networks than with being an own-account worker. The networks in question are *training events*, *trade fairs* and *association membership*. This confirms the finding of Barr (1995) that entrepreneurs with larger and diverse sets of contacts have more productive enterprises as well as networks (that serve as avenue for facilitating exchange of technical knowledge).

7.4.3 Networking with Customers

Interaction with customers or clients is another network. This network is treated differently because information from it can be both demand- and supply-driven, demand-driven when customers and clients of their own volition provide feedback to enterprises and supply-driven when the enterprises proactively contact them for feedback. The former is easier than the latter and the enterprise that adopts the latter strategy is more likely to act on the feedback.

In this study, virtually all the graduates have gained some knowledge from their customers, especially concerning the needs of customers, how they should be satisfied, be related to and be dealt with when it comes to payment. This is in line with Harrington's (1995) view of customers as important stakeholders, which is evident among SMEs, especially in tailor-made or customised products and services.

A related issue is that of raising switching cost, which is not only the prerogative of large enterprises. Facing keen competition even at the local level, micro enterprises make use of the feedback from their customers not only to meet, but also to go beyond their expectations (that is, to delight their customers). The customers are given tailor-made products and services, which raises the cost of switching to a competitor. This argument is reinforced by the graduates' choice of number of customers as their topmost success indicator in this study. Comparing the percentage

of enterprises in this study that have interaction with their customers (99.2%,) with that found by Kinyanjui and McCormick (2005) among garment retailers (59.6%), the latter appears to be on the low side.

7.4.4 Communication Media and Self-directed Learning

Individual learning preferences are demonstrated in the type of communication media from which the graduates learn. Graduates with the highest level of education mostly learn from the *Internet* and *newspapers*, which entail reading and much mental effort, whereas their counterparts with the lowest level of education learn from *FM radio*, *TV* and *Catalogues* or *magazines*, which is an auditory and visual exercise. This is because those with the highest level of education know how to learn by learning and so can glean useful knowledge from the plethora of information available on the Internet and in newspapers.

The communication media are sources of relevant information to the graduates, which appears to have a bearing on the performance of their enterprises. Evidence from the thesis confirms the finding of Appiah et al. (2001) that mostly general and marketing competencies were learnt from such sources

7.5 Agency and Competence Acquisition

7.5.1 Exercise of Agency

Agency plays a significant role in people's career choices and self-employment decisions. This is evident in their reasons for going into self-employment and wage employment. Agency is also dynamic. It is what drives different individuals into different pathways to enterprise.

The pathways in this research give recognition to dual employment, which is often not talked about, for example in the Models A-F presented by McGrath et al. (1994). Wage employment within dual employment is only transitory. In addition, this research recognises the differences in the entrepreneurial status, in which the graduate often starts as an own-account worker and over time progresses into an entrepreneur employing paid workers.

Table 7.1
Summary of competencies by learning sources

Competencies	Learning Sources		
	IHC	OJE	ELN
Marketing			
Carving a Niche	*	***	**
Promotional Activities	*	***	**
Personal Contact	*	***	**
Management			
Job Deadline	**	***	*
Bank Account	*	***	**
Account Separation	*	***	**
Receipts Demanding	**	***	*
Receipts Issuing	*	***	**
Transactions Recording	*	***	**
ICT			
User Req. Spec.	*	**	***
Functionality Test	*	**	***
Stress Testing	*	**	***
Electrical Rewinding			
DC Motor Rewinding	*		
Motor Speed	**	*	
Coil Thickness	**		*
Bearing Noise	**	*	
General Electrical			
Touch Wires	***	*	***
Earth Test	***	*	**
Phasing	**	**	***
Continuity Test	***	**	*
Phase Sequence	**		*
Tailoring & Dressmaking			
Sewing and Ironing	**	***	*
Press Piece	***	**	**
Garment Fitting	***	**	*
Carpentry & Joinery			
Wood Treatment	***	*	**
Wood Seasoning	***	*	**

7.5.2 Human Capital Theory

Discussions on human capital theory have been focusing on levels of formal education and the differences that they make in the productivity and earnings of graduates. In this study, however, the theory has been applied to entrepreneurship and enterprise development to show the relationship between initial human capital or enterprise learning networks or on-the-job learning experience and the competence and success levels of micro and small enterprise, and not the productivity of workers. It confirms the importance of higher level of education (initial human capital endowment) in creating differentials in ‘return for labour’ as measured by number of customers and level of profit.

Further acquisition of human capital through the pathways has also contributed to this, not forgetting networks as other avenues for further human capital acquisition. Notwithstanding this, the argument put forward by King and McGrath (2002: 72) is worth noting: ‘...it is dangerous to suggest that higher education levels in MSEs unequivocally lead to better enterprise productivity. Indeed, education and training are likely to work best in combination with other inputs, such as experience, and with a favourable environment.’

The schooling system is not enough and suggests the importance of expanding human capital through continuous learning, as demonstrated by the graduates in this research, who have also learnt from on-the-job experience and other sources of life-long learning (enterprise learning networks) for better performance. Thus the study has identified three important sources of learning for the enterprises: initial human capital, on-the-job experience and enterprise learning networks, as summed up in Table 7.1. The number of asterisks indicates the source from which most of the graduates learnt a particular competency task. Empty cells indicate that no one acquired a task from that particular learning source.

The human capital theory is formulated in a context dominated by formal education and its proponents hardly discuss informal traditional apprenticeship training; this study has acknowledged such training.

7.5.3 Nature of Competition

This study has established that the two success indicators – level of profit and number of customers – are positively associated with enterprise competence. This is confirmation of the Austrian School view of profit as a reflection of the ‘superior firm-specific competence’ and innovation,

factors that are critical for business competition. The minuscule level of production of the micro and small enterprises of the graduates does not have market power to influence price and consequently profit. However, with competence this is possible. Furthermore, the Ghanaian graduates consider increase in customers more important than increase in the level of profit. An enterprise can map out plans to maintain its existing customers and still make more profit. The graduates' relationship with their customers is paramount to them, confirming the contention by Baldwin and Gellatly (2003) that the relationship with customers assists in shaping the competitive environment of business

Another issue is that it is not technical competence (product or services) that underlies the performance of the more successful enterprises. Technical quality, though important, is not evident in explaining the superior performance of the more successful enterprises. When customers become well informed about the availability of products and services in the market, this picture is likely to change. Therefore, competition among these enterprises can be explained more in terms of quality managerial and marketing practices.

7.5.4 Strategies for Acquiring Competencies

The SMEs that were researched have their own ways of acquiring competencies. For example, acquisition of competence through research and development may not be relevant to them. In addition to the competencies gained during their initial human capital formation, the graduates acquired competencies from other sources, namely the opportunity and bonding networks, customers, various communication media and on-the-job experience, among others. 'At the lowest end of the technological spectrum, simple literacy and some vocational training, complemented by a few higher-level technical skills, may be sufficient to ensure adequate TCs [technological capabilities]' (Lall, 2002: 154). Baldwin and Gellatly's (2003) point regarding the need to focus more on diversity of internal activities going on in innovative firms as well as the complexity of their external networks in helping to shape their innovative process becomes significant in this research.

Related to this is the fact that the differences in the initial human capital endowment of the graduates play a role in the choice of learning modalities during their lifelong learning.

7.6 Practical Lessons and Implications

Several lessons that provide new insights for policy reformulation and practical lessons for micro and small enterprise development in Ghana and other developing countries can be learnt from the research.

First, although structural factors can drive people into self-employment, the graduates in this study are driven into this type of employment by psycho-social factors, most importantly the ability to bring their creativity to bear and their search for independence which they believe can be fulfilled only when they are working on their own. With these intrinsic motivators, their preparation for self-employment and starting an enterprise becomes straightforward.

Second, exogenous factors have often been the focus of programmes that are geared towards enterprise development, especially for start-ups. Important though they may be, endogenous factors, with their emphasis on competence learning, are more crucial in contemporary business with quality as the main competitive weapon. Therefore, owners of micro and small enterprises should be encouraged to make lifelong learning a priority. One effective way of doing that is through trade associations. The Ghana National Tailors and Dressmakers Association, for example, has been instrumental in helping apprentices upgrade their competencies by organising classes for them once a week. The apprentices are then able to take the national examination conducted by the association. Trade associations can also set quality standards for their members. Another approach is for Assemblies to facilitate organisation of refresher training courses for enterprise owners. The Assemblies have been successful in bringing enterprise owners into their tax net. They can equally make it mandatory for them to pay a small amount once every quarter for refresher courses. That would be similar to the training fees that some large enterprises contribute for human resource development in some countries.

Related to the above, it is evident that opportunity networks are critical to enterprise performance. It is imperative, therefore, to facilitate the creation of these networks. That can also be facilitated by the Assemblies. For example, mini trade fairs can be organised twice a year to bring the enterprises together for exchange of ideas.

Third, university graduates are better job creators. Increasing the self-employability of graduates with a post-basic education and training background, especially those from the tertiary institutions, would have greater trickle-down effects, for example by generating more competent wage

employees and self-employed people. This is the primary effect. It would in the long run transform the traditional apprenticeship training system into a modern apprenticeship training system where the approach to training would be somewhat structured and some theory would be blended with practical lessons. This is the secondary effect. Thus, tertiary graduates in micro and small enterprises would generate more skilled apprentices, employees, self-employed people and interns than traditional apprenticeship training. As Killick (1993: 53) puts it, it is from the educated ones that 'most modernization is likely to originate' and they will also serve as exemplars.

Fourth, promotion of universal primary education has over the years gained much support and in recent times has also been extended to secondary education. Primary and secondary education is necessary but not sufficient; Ghana also needs highly educated people as drivers of economic growth and development. To reiterate the point made by Bloom et al. (2006: i) which is attributed to Jee-Peng Tan (the World Bank's Education Advisor for the African Region), higher education which hitherto was viewed as being expensive and benefited the well-to-do should cease to contend with both primary and secondary education for policy attention. Rather, it should complement educational efforts at other levels.

Fifth, basically there are three different sources for acquiring and developing competencies: the initial human capital resources, enterprise learning networks, and – the most important – on-the-job experience.

Sixth, dual employment as a transition phase for university graduates is a reality in Ghana. It largely serves the useful purpose of helping the graduates to explore more of their employment careers, get resourced and develop their profession for eventual settlement into self-employment. In relation to this, promotion of education-industry linkage becomes critical; internship programmes for students need to be well-blended with university curricula for practical exposure. This would be a modification of the Model F developed by McGrath et al. (1994). With quality formal education, university graduates who wish to go into self-employment need not first transit through wage employment or dual employment. However, it has yet to be ascertained definitively whether university graduates are ready to make such life choices. As shown in Chapter 1, 17.5% of the 1994 batch of Electrical and Electronic graduates are in either self-employment or dual employment. The figure rose to 36.4% for the 1996 batch, which gives at least a positive picture of the likelihood of some

university graduates going fully into self-employment immediately after graduation.

Seventh, the general competencies needed for running an enterprise, namely marketing and management, are required in entrepreneurship formation programmes. Learning activities should not be limited to technical competencies. For example, with the number of customers that an enterprise has being the most important success indicator, capability to deal with customers becomes crucial.

Eighth, even though this research focused mainly on competence, the exogenous factors concerning challenges faced by the enterprises cannot be glossed over; they, too, call for policy reflection:

- Assistance to small-scale enterprises is often given directly in financial terms, like access to loans, which the banking sector has hitherto found unfeasible for micro and small enterprises. An option in the form of machines, tools and raw materials on hire purchase needs to be explored. In addition, the issue of workspace, especially for start-up, is critical.
- Improvements in the communication and mass media have facilitated self-directed learning. Expansion of communication infrastructure, affordable services and relevant programmes need attention.
- Competitive success depends on learning from quality or best practices. The many counterfeit products from countries like China and Dubai that serve as inputs to Ghana's small-scale enterprises are bound to undermine the quality of the products manufactured and services offered by small-scale enterprises in Ghana. The onus rests on organisations like the Ghana Standards Board, the Ghana Food and Drugs Board and Ghana Customs, Excise and Preventive Services to enforce controls. Similarly, good business practices on the part of the enterprise owners are very important. The use of more appropriate technologies is to be encouraged but bad business practices must be shunned if small enterprises are to be competitive and the industrialisation process of MSEs in Ghana to be improved.
- Ghana needs more higher education graduates and the quality of education also needs improvement. 'A good quality education is likely both to ease access to (self) employment and training opportunities and to enhance the likely value of training received subsequently. In line with arguments about lifelong learning, the knowledge base pro-

vided in school will be an important resource for future skills upgrading' (King and McGrath, 2002: 80).

Appendices

A1.1

Job placement by sectors

Year	Private Enterprises	Public Corporations	Central Government	Local Authorities	Total
1992	3,744	2,000	496	1,248	7,488
1993	3,590	1,900	772	919	7,181
1994	2,759	1,345	609	964	5,677
1995	4,308	1,608	911	1,464	8,291
1996	4,502	1,805	614	1,364	8,285
1997	5,897	2,017	1,488	1,605	11,067

Source: Labour Department, cited in MESW (1998: 9).

A1.2

Types of organisations advertising jobs

Types of Ownership	Number of Jobs Advertised		
	1993	1994	1995
Government (Public or Civil Service)	35 (1.7%)	10 (0.6%)	24 (1.5%)
State-Owned Enterprises or Corporations	88 (3.8%)	31 (2.0%)	51 (3.2%)
Public Limited Company or Business	1,332 (63.2%)	336 (22.4%)	170 (10.7%)
Private Company or Business	448 (23.1%)	826 (54.9%)	1,221 (76.7%)
Other Employer	76 (3.4%)	302 (20.1%)	126 (7.9%)
Total	2,015 (100.0%)	1,505 (100.0%)	1,592 (100.0%)

Source: MESW (1996), cited in MESW (1998: 9).

A3.1

Starting employment types by present employment types of the graduates

Starting Employment Type	Present Employment Type					Total	P - value ^c
	SE/E	DE/E	SE/OAW	DE/OAW			
All Graduates							*0.000
WE	16 (40.0)	3 (7.5)	15 (37.5)	6 (15.0)	40 (33.1)		
SE/DAW	14 (23.0)	1 (1.6)	28 (45.9)	18 (29.5)	61 (50.4)		
SE/E	5 (100.0)	-	-	-	5 (4.1)		
DE/DAW	2 (13.3)	6 (40.0)	-	7 (46.7)	15 (12.4)		
					121 (100)		
KNUST Graduates							**0.046
WE	4 (44.4)	3 (33.3)	-	2 (22.2)	9 (29.0)		
SE/DAW	4 (44.4)	-	-	5 (55.6)	9 (29.0)		
SE/E	2 (100.0)	-	-	-	2 (6.5)		
DE/DAW	1 (9.1)	6 (54.5)	-	4 (36.4)	11 (35.5)		
					31 (100)		
TTI Graduates							**0.037
WE	5 (55.4)	-	4 (44.4)	-	9 (20.5)		
SE/DAW	4 (13.8)	1 (3.4)	13 (44.8)	11 (37.9)	29 (65.9)		
SE/E	2 (100.0)	-	-	-	2 (4.5)		
DE/DAW	1 (25.0)	-	-	3 (75.0)	4 (9.1)		
					44 (100)		
TAT Graduates							***0.449
WE	7 (31.8)	-	11 (50.0)	4 (18.2)	22 (47.8)		
SE/DAW	6 (26.1)	-	15 (65.2)	2 (8.7)	23 (50.0)		
SE/E	1 (100.0)	-	-	-	1 (2.2)		
					46 (100)		
Post-Basic Graduates							*0.005
WE	10 (41.7)	-	13 (54.2)	1 (4.2)	24 (35.3)		
SE/DAW	6 (16.2)	1 (2.7)	17 (45.9)	13 (35.1)	37 (54.4)		
SE/E	3 (100.0)	-	-	-	3 (4.4)		
DE/DAW	1 (25.0)	-	-	3 (75.0)	4 (5.9)		
					68 (100)		
Basic Graduates							**0.018
WE	2 (28.6)	-	2 (28.6)	3 (42.9)	7 (31.8)		
SE/DAW	4 (26.7)	-	11 (73.3)	-	15 (68.2)		
					22 (100)		

Figures in parenthesis are in percentage

*Significant at 0.01

**Significant at 0.05

***Insignificant at 0.05

A4.1 Competencies by change in number of customers

Competencies	Number of Customers		
	Increase	Same/Decrease	Total
<i>Marketing</i>			
Carving a Niche	65 (77.4%)	24 (64.9%)	89 (73.6%)
Promotional Activities	54 (64.3%)	21 (56.8%)	75 (62.0%)
Personal Contact	75 (89.3%)	30 (81.1%)	105 (86.8%)
<i>Management</i>			
Job Deadline	84 (100.0%)	37 (100.0%)	121 (100.0%)
Business Account	46 (54.8%)	14 (37.8%)	60 (49.6%)
Separate Account	59 (70.2%)	20 (54.1%)	79 (65.3%)
Receipts Demanding	69 (82.1%)	34 (91.9%)	103 (85.1%)
Receipts Issuing	51 (60.7%)	23 (62.2%)	74 (61.2%)
Transactions Recording	43 (51.2%)	20 (54.1%)	63 (52.1%)
<i>ICT</i>			
Less Competent	11 (78.6%)	5 (83.3%)	16 (80.0%)
More Competent	3 (21.4%)	1 (16.7%)	4 (20.0%)
Total	14 (70.0%)	6 (30.0%)	20 (100.0%)
<i>Electrical Rewinding</i>			
Less Competent	7 (63.6%)	2 (50.0%)	9 (60.0%)
More Competent	4 (36.4%)	2 (50.0%)	6 (40.0%)
Total	11 (73.3%)	4 (26.7%)	15 (100.0%)
<i>General Electrical</i>			
Less Competent	11 (50.0%)	1 (14.3%)	12 (41.4%)
More Competent	11 (50.0%)	6 (85.7%)	17 (58.6%)
Total	22 (75.9%)	7 (24.1%)	29 (100.0%)
<i>Tailoring & Dressmaking</i>			
Less Competent	10 (47.6%)	5 (55.6%)	15 (50.0%)
More Competent	11 (52.4%)	4 (44.4%)	15 (50.0%)
Total	21 (70.0%)	9 (30.0%)	30 (100.0%)
<i>Carpentry & Joinery</i>			
Less Competent	9 (56.2%)	5 (45.5%)	14 (51.9%)
More Competent	7 (43.8%)	6 (54.5%)	13 (48.1%)
Total	16 (59.3%)	11 (40.7%)	27 (100.0%)

A4.2
Competencies by change in level of profit

Competencies	Level of Profit		
	Increase	Same or Decrease	Total
<i>Marketing</i>			
Carving a Niche	62 (76.5%)	27 (67.5%)	89 (73.6%)
Promotional Activities	54 (66.7%)	21 (52.5%)	75 (62.0%)
Personal Contact	73 (90.1%)	32 (80.0%)	105 (86.8%)
<i>Management</i>			
Job Deadline	81 (100.0%)	40 (100.0%)	121 (100.0%)
Business Account	46 (56.8%)	14 (35.0%)	60 (49.6%)
Separate Account	60 (74.1%)	19 (47.5%)	79 (65.3%)
Receipts Demanding	69 (85.2%)	34 (85.0%)	103 (85.1%)
Receipts Issuing	51 (63.0%)	23 (57.5%)	74 (61.2%)
Transactions Recording	45 (55.6%)	18 (45.0%)	63 (52.1%)
<i>ICT</i>			
Less Competent	10 (71.4%)	6 (100.0%)	16 (80.0%)
More Competent	4 (28.6%)	-	4 (20.0%)
Total	14 (70.0%)	6 (30.0%)	20 (100.0%)
<i>Electrical Rewinding</i>			
Less Competent	6 (60.0%)	3 (60.0%)	9 (60.0%)
More Competent	4 (40.0%)	2 (40.0%)	6 (40.0%)
Total	10 (66.7%)	5 (33.3%)	15 (100.0%)
<i>General Electrical</i>			
Less Competent	11 (50.0%)	1 (14.3%)	12 (41.4%)
More Competent	11 (50.0%)	6 (85.7%)	17 (58.6%)
Total	22 (75.9%)	7 (24.1%)	29 (100.0%)
<i>Tailoring & Dressmaking</i>			
Less Competent	9 (50.0%)	6 (50.0%)	15 (50.0%)
More Competent	9 (50.0%)	6 (50.0%)	15 (50.0%)
Total	18 (60.0%)	12 (40.0%)	30 (100.0%)
<i>Carpentry & Joinery</i>			
Less Competent	10 (58.8%)	4 (40.0%)	14 (51.9%)
More Competent	7 (41.2%)	6 (60.0%)	13 (48.1%)
Total	17 (63.0%)	10 (37.0%)	27 (100.0%)

A5.1*Appropriateness of tools used for various tests*

Appropriateness of Tools	IHC		
	KNUST	TTI	Total
<i>Test for Touching Wires</i>			
Most appropriate instrument	5 (45.5%)	-	5 (17.2%)
Appropriate instrument	6 (54.5%)	13 (72.2%)	19 (65.5%)
Inappropriate instrument	-	5 (27.8%)	5 (17.2%)
<i>Test on Earthing</i>			
Most appropriate instrument	4 (36.4%)	2 (11.1%)	6 (20.7%)
Appropriate instrument	6 (54.5%)	16 (88.9%)	22 (75.9%)
Not Applicable	1 (9.1%)	-	1 (3.4%)
<i>Test on Phasing^c</i>			
Not practising	2 (18.2%)	1 (5.6%)	3 (10.3%)
Most appropriate instrument	3 (27.3%)	-	3 (10.3%)
Appropriate instrument	3 (27.3%)	13 (72.2%)	16 (55.2%)
Inappropriate instrument	2 (18.2%)	3 (16.7%)	5 (17.2%)
Not Applicable	1 (9.1%)	1 (5.6%)	2 (6.9%)
<i>Test for Continuity</i>			
Most appropriate instrument	10 (90.9%)	13 (72.2%)	23 (79.3%)
Appropriate instrument	1 (9.1%)	3 (16.7%)	4 (13.8%)
Inappropriate instrument	-	2 (11.1%)	2 (6.9%)
<i>Phase Sequence Test</i>			
Not practising	3 (27.3%)	4 (22.2%)	7 (24.1%)
Most appropriate instrument	4 (36.4%)	7 (38.9%)	11 (37.9%)
Inappropriate instrument	3 (27.3%)	7 (38.9%)	10 (34.5%)
Not Applicable	1 (9.1%)	-	1 (3.4%)

A6.1*Network type and competence level*

	Network	Competence level		P-value
		Less Competent	More Competent	
	Training * Marketing	21.7%	40.4%	**0.043
	Training * Management	16.4%	46.3%	*0.001
	Training * Marketing & Management	16.4%	43.3%	*0.002
	Training * Marketing, Management & Technical	19.7%	40.0%	**0.025
	Enterprises in Different Sector * Marketing	47.8%	76.9%	*0.002
	Association * Marketing	11.6%	28.8%	**0.031
	Association * Management	10.4%	29.6%	**0.015
	Association * Marketing & Management	8.2%	30.0%	*0.005
	Association * Marketing, Management & Technical	9.8%	28.3%	**0.018
	Role Model * Marketing	23.2%	61.5%	*0.000
	Role Model * Management	29.9%	51.9%	**0.047
	Role Model * Marketing & Management	26.2%	53.3%	*0.009

*Significant at 0.01

**Significant 0.05

A6.2*Use of FM stations by initial human capital*

FM Station	IHC			Total
	KNUST	TTI	TAT	
Hello	1 (7.7 %)	-	-	1.0
Unique & Joy	-	1 (4.0%)	-	1.0
Luv	1 (7.7 %)	-	-	1.0
Adom	-	6 (24.0%)	6 (22.0%)	12.0
Radio Gold	1 (7.7 %)	1 (4.0%)	3 (11.1%)	5.0
Peace	1 (7.7 %)	4 (16.0%)	8 (29.6%)	13.0
Hot	-	-	1 (3.7%)	1.0
Citi	2 (14.3%)	-	-	2.0
Joy	4 (28.6%)	6 (24.0%)	6 (22.0%)	16.0
Vibe	-	1 (4.0%)	-	1.0
Channel R	-	-	1 (3.7%)	1.0
Choice & Joy	1 (7.7 %)	-	-	1.0
Joy & Adom	-	1 (4.0%)	1 (3.7%)	2.0
Unique & Gold	-	1 (4.0%)	-	1.0
Joy & Gold	-	1 (4.0%)	-	1.0
Joy & Peace	1 (7.7 %)	-	-	1.0
Not Stated	2 (14.3%)	3 (12.0%)	1 (3.7%)	6.0
Total	14 (21.2%)	25 (37.9%)	27 (40.9%)	66 (100.0%)

A6.3*Use of TV stations by initial human capital*

TV Station	Initial Human Capital			
	KNUST	TTI	TAT	Total
TV3	5 (29.4%)	18 (58.1%)	16 (53.3%)	39.0
CNN	2 (11.8%)	-	1 (3.3%)	3.0
GTV	4 (23.5%)	3 (9.7%)	3 (10.0%)	10.0
GBC	-	-	1 (3.3%)	1.0
Metro	2 (11.8%)	1 (3.2%)	2 (6.7%)	5.0
DStv	2 (11.8%)	-	-	2.0
TV Africa	-	2 (6.5%)	1 (3.3%)	3.0
CNN & BBC	1 (5.9%)	-	-	1.0
CNN & DW-TV	-	1 (3.2%)	-	1.0
TV3 & GTV	-	1 (3.2%)	-	1.0
GTV & TV Africa	-	1 (3.2%)	-	1.0
Not Stated	1 (5.9%)	4 (12.9%)	6 (20.0%)	11.0
Total	17 (21.8%)	31 (39.7%)	30 (38.5%)	78 (100.0%)

A6.4*Use of newspapers, by initial human capital*

Newspaper	Initial Human Capital			
	KNUST	TTI	TAT	Total
<i>Daily Graphic</i>	14 (77.8%)	6 (31.6%)	3 (20.0%)	23 (43.1%)
<i>Business & Financial Times</i>	2 (11.1%)	-	-	2 (3.9%)
<i>The Mirror</i>	-	7 (36.8%)	7 (46.7%)	14 (27.5%)
<i>Ghanaian Times</i>	-	-	1 (6.7%)	1 (2.0%)
<i>P&P</i>	-	1 (5.3%)	1 (6.7%)	3 (3.9%)
<i>Kotoko Express</i>	-	-	1 (6.7%)	1 (2.0%)
<i>The Economist</i>	1 (5.6%)	-	-	1 (2.0%)
<i>Daily Graphic & The Mirror</i>	-	3 (15.0%)	-	3 (5.6%)
Not stated	1 (5.6%)	2 (10.5%)	2 (13.3%)	5 (9.8%)
Total ^a	18 (34.6%)	19 (36.5%)	15 (28.9%)	52 (100.0%)

^aThree (3) people mentioned more than one newspaper



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The Author

Jerome Rudolf Awortwe-Abban was admitted to the PhD programme of the International Institute of Social Studies of the Erasmus University Rotterdam, The Hague, in January 2004 on the basis of a degree of Master of Philosophy in Development Studies from the University of Cape Coast, Ghana. The title of his MPhil thesis was 'Training for Rural Community Management of Water: The Case of the BURGEAP Central Region Project, Ghana'.

After his Bachelor's degree and National Service, he taught at the Tema Methodist Day Secondary School, Ghana, as an account and life skills teacher for a year. He has been working with the Management Development and Productivity Institute (MDPI), Ghana, in the area of training, research and consultancy immediately after his Master's degree. He has designed, developed and delivered various management training programmes, especially in training and development for MDPI's clients in and outside Ghana. He has also served as a resource person for organisations such as the Afro-Euro Foundation (Migration & Development Project) in the Netherlands, Eastern and Southern African Management Institute (ESAMI) in Tanzania for its programmes in Ghana, Good Shepherd Catholic Church (Tema), Lower Pra Rural Bank, First Allied Savings and Credit Bank and Ashanti Goldfields Corporation (now AngloGold Ashanti Limited), Ghana. He has been a member of teams doing fieldwork on water and sanitation for organisations such as TREND, Kumasi – Ghana, and on child upbringing practices for UNICEF (Ghana). He has also served as a Teaching and Research Assistant for post-graduate students of the International Institute of Social Studies, The Hague.

Awortwe-Abban has attended training programmes, especially in training methodology, in India, Malaysia, Botswana and Ghana. In addition, he has presented papers at international conferences and organisations, for example, International Labour Organisation (Switzerland), European Association of Development Research (Switzerland), Institute for Art, Development and Education (Finland, International Association for Feminist Economics and Institute for Women's Policy Research (USA). He was awarded the Second Prize by Stichting Oikos in the Netherlands for his essay on 'Labouring in Dignity' (<http://www.geloofwaardige-economie.nl/winnaars>).

Contacts:

Post Office Box SC56, Tema – Ghana.

Email: k.a.academic@gmail.com

Declaration:

This thesis has not been submitted to any university for a degree or any other award.