

# Entrepreneurial Profiles: Competencies and Educational Needs in East and West Germany

## **Abstract**

This paper identifies entrepreneurship competencies and education needs arising from entrepreneurial profiles in unified Germany based on an aggregate approach to international comparisons of entrepreneurship. Given previous research about “adolescent entrepreneurs” in economies in transition and “adult entrepreneurs” in western countries with a longer capitalist tradition, this study links these poles of the international entrepreneurial spectrum. East versus West and men versus women entrepreneurship showed more similarities than differences regarding the entrepreneurial traits, the company’s strategy and its competitive German environment. But applying the same research methodology German entrepreneurs appear less entrepreneurial than their US and Russian counterparts. These findings indicate the entrepreneurial competencies and educational and training needs of entrepreneurs in high-developed and transitional economies. The pedagogical approach of integrated qualifications needed for occupational activities – expert competency, methodical competency, social competency – by Halfpap (1991) helps to grasp the education needs of the different entrepreneurial profiles in Germany. Given their self-evaluation the sampled women entrepreneurs need to be trained regarding the expert competency of technical skills (East-German women less than West-German women) and the methodical competency of problem solving. The picture of social competency is ambiguous.

Key Words: international entrepreneurship, entrepreneurial competencies, entrepreneurship education, entrepreneurship training, German entrepreneurs.

## **1 Introduction**

International entrepreneurship as an intersection between research in international business and entrepreneurship gains more emphasis since the economy is globalizing and the most of the world works under a market economy. The role of entrepreneurship education to help foster economic development especially in economies in transition needs to be based on international research results. Problems in developing an integrative approach occur in a broad range of research items such as: the international new venture; the profile of the international entrepreneur; differences in entrepreneurs and entrepreneurship education needs related to culture, nationality, and gender; the status of entrepreneurship in market and transition economies. Given this lack of an integrative definition and theory, the profiling of different types of entrepreneurs and their education and training needs using an integrative research methodology is one approach to help understand the needs in international entrepreneurship education.

The German profile of entrepreneurs and new ventures will provide a piece of the puzzle filling the gap between the previously researched entrepreneur in established market economies and the entrepreneur in transition economies. This occurred in the unique economic situation of the reunified Germany with its strong economy in the Old Laender and the transition economy in the New Laender under one national umbrella. To understand the differences between the two groups and their relationship with the Russian and U.S. entrepreneur, a profile of the East and West German entrepreneur was developed using a similar research methodology and questionnaire. Three areas were evaluated to identify the similarities and differences between the groups: (1) the characteristics of the entrepreneur and the new venture, (2) the company's strategy and (3) the competitive environment.

The purpose of the study was to: (1) understand the nature of the German entrepreneur in the unified country versus those from Russia and the United States; (2) identifying any

significant differences and similarities between entrepreneurs from the former East Germany versus West Germany; (3) examine if gender affects any of these similarities or differences; and (4) determine competencies and entrepreneurship education needs from the differing entrepreneurial profiles developed.

## **2 International Entrepreneurial Profiles**

### ***2.1 Entrepreneurship in Transition Economies***

While entrepreneurs have some common characteristics, they also differ due to their gender, culture, and nationality. When evaluating international entrepreneurs, the common traits and the national culture and context of the entrepreneur and the venture created need to be assessed. Society and culture have a significant impact on both the acceptance and role of the entrepreneur. While some cultures see this role as socially acceptable and beneficial to the society, other cultures may consider it unethical and illegitimate (Fulop, Hisrich, and Szegedi 2000). Usually, entrepreneurs have a great impact on the economy of their countries; not only do they create a substantial amount of new jobs but also they have helped change the economy, especially in countries in transition (Chilosi 2002).

Entrepreneurs in transition economies have some additional obstacles not encountered to the same extent in established market economies. Some of these obstacles include the “unstable and hostile nature of the external environment and the scarcity of resources, particularly capital” (Smallbone and Welter 2001). The lack of reliable institutions and protection such as property rights in the external environment decreases the willingness to become an entrepreneur or finance one (Chilosi 2002). In addition, instability in the form of inflation and changing public policy increases the risk in starting a new venture.

To help overcome these obstacles, entrepreneurs in transition economies make use of informal networks and influence acquired while in previous government/state positions (Smallbone and Welter 2001). These networks prove valuable particularly when acquiring

resources and navigating bureaucracy. With respect to entrepreneurial development across different Central and Eastern European countries, a strong pre-socialist industrial tradition and successful reforms has impacted the creation of new ventures (Smallbone and Welter 2001).

The perception of entrepreneurs in some societies may discourage entrepreneurial activity. As Chilosi indicates in transition economies, the position of the entrepreneur in society is still somewhat problematic as some view entrepreneurs as exploiters who profit from speculation and operate between legality and illegality (Chilosi 2002).

## ***2.2 International Women Entrepreneurs***

In researching entrepreneurs, the question of whether entrepreneurial behaviour varies with gender often arises. Studies have focused on the various aspects of women entrepreneurs in different countries. The role of women entrepreneurs in society also varies with the culture; in some cultures today, women who work outside female occupations or are owners of businesses outside these traditional occupations are not totally accepted. Women participation in the workforce has increased significantly; for example, in the U.S. women comprise more than 50% of the workforce. Women have also made inroads into male-dominated occupations and have slowly established credibility as entrepreneurs. Despite this in some cultures, the societal view of women's role sometimes makes it harder for women to become and succeed as entrepreneurs (Lerner, Brush and Hisrich 1997).

Although there are more similarities than differences, men and women entrepreneurs differ in some respects. Women entrepreneurs have fewer role models, and are lacking confidence in some business skills. Further, they are somewhat less developed than men in terms of independence, self-confidence, assertiveness, and drive, which are considered male traits. (Hisrich 1986).

Similar to the Russian entrepreneur, women entrepreneurs in US, Puerto Rico, Republic of Ireland, and Northern Ireland tend to be married and more educated than their parents (Hisrich, 1986). Women entrepreneurs from these countries (U.S., Republic of Ireland, and Northern Ireland) have family and spousal support, come from middle-class families, with self-employed fathers and homemaker mothers. The entrepreneurs identified their personality as more like their fathers. Women entrepreneurs in Israel also are married, highly educated, have a strong family orientation, and wait until their children were grown to become an entrepreneur. Reflecting women's role in Israeli society, women entrepreneurs feel that the family has priority over the business (Lerner, Brush, and Hisrich 1997). Israeli women entrepreneurs differ from their counterparts in other countries in having much stronger and more robust network affiliation.

The biggest obstacle encountered for women entrepreneurs was the lack of business education and training. Other obstacles include: obtaining credit, lack of financial planning, lack of business experience, lack of involvement with business colleagues, and lack of respect for businesswomen. In Turkey, the biggest obstacle for women entrepreneurs is society's perception of women's role, followed by bureaucracy, lack of capital, lack of customer confidence, and lack of respect within the community (Ufuk and Özgen 2001). It is interesting to note that society's view of women entrepreneurs in Turkey is similar to that of both women and men entrepreneurs in Hungary. In both cultures, the entrepreneurs are perceived as going against social rules and tradition.

Given this state of international entrepreneurial spectrum, what is the nature of the international entrepreneurial spectrum in the reunified Germany? Is there a difference between entrepreneurs from the former East Germany versus West Germany? Does gender affect any of these similarities or differences? What are the implications for entrepreneurship education and training?

### **3 Research Methodology**

Each entrepreneur in this study received a comprehensive questionnaire which has been used in previous research in the United States and several transition economies including Russia (Hisrich and Grachev 1995 and 1993). The questionnaire was translated into German and adapted to the unique economic situation of the reunified Germany with its strong economy in the Old Laender and the transition economy in the New Laender under one national umbrella. To understand the differences and similarities of East and West German entrepreneurs, this in-depth study used the data base of the KfW Mittelstandsbank (SME Bank). As a State-owned promotional institution, KfW SME Bank supports small and medium-sized enterprises (SMEs), business start-ups and the self-employed in the form of loans, mezzanine financing, equity capital and consulting services. Since it took over the central role in promoting entrepreneurship in the New Laender after the reunification, the KfW SME Bank has a comprehensive database of East and West German entrepreneurs, allowing comparable sub-samples of entrepreneurs in both parts of Germany to be obtained.

The entrepreneurs were selected on a confidential basis from the ERP-Eigenkapitalhilfeprogramm, a long term loan programme with mezzanine characteristics focusing on start-ups and early stage. The mailing list was sampled using the criteria that the selected companies had to have a minimum enterprise size. The entrepreneurs were chosen based on the number of employees (mean 4.47) and the amount to be invested (mean 165,497 euros) at the time of entrance into the ERP-loan program. Additional financial support by other KfW-programs could increase the funding of the entrepreneurial investment up to 75–90%.

For each of the dimension being tested, the sample was split into two main groups – either an East German or West German entrepreneur. Entrepreneurs from Berlin were kept

separate considering the former status of the now German capital as a split city with its particularities in the eastern part as well as in the western part. Combined with the entrepreneurs without a specified location, the core sample (n=220) was reduced to 204 entrepreneurs due to record completeness. Compared with the overall German economy, the distribution of the received questionnaires (73.5% West, 26.5% East) approximated the population of West and East German entrepreneurs. It was controlled for the East German and West German origins of the entrepreneurs.

As in previous research in international entrepreneurship, a sub-sample was drawn based on the gender of the participating entrepreneurs. Within the entire sample 158 male entrepreneurs and 46 female entrepreneurs responded. Given these groups, the similarities and differences of men and women entrepreneurship in East and West Germany along various entrepreneurial profiles, characteristics and educational and training needs were examined. Since this is an exploratory study, significance levels of <0.05 and <0.1 were used with ANOVA on the scaled questions.

## **4 Profile of the German Entrepreneur in an International Context**

### ***4.1 General Characteristics of the Entrepreneur and the New Venture***

Descriptive statistics indicate that the mean age of the German entrepreneur was 41.8 years (see Table 1) with the age ranging between 27 and 63. East German entrepreneurs were slightly older than West German entrepreneurs – 43.4 versus 41.2. Similar to the international samples, the majority of the entrepreneurs were male (77.5%). The proportion of men and women entrepreneurs differed significantly between the two groups. While 41% of the East Germans (n=54), just 16% of the West Germans (n=150) were women entrepreneurs. Given these proportions, the women entrepreneur samples were approximately equal: 22 women entrepreneurs in the East versus 24 in the West.

The present venture for the majority of the entrepreneurs (87%) was their first entrepreneurial effort. Surprisingly, the East Germans showed slightly more entrepreneurial experience than the West Germans as the current venture was their first entrepreneurial effort was lower in the East (83%) than the West (89%). However, the number of previous ventures for the remaining entrepreneurs was higher in the West (1.36) than in the East (1.00). The percentage of ownership by the entrepreneur was higher in the West (86%) than in the East (79%).

*Insert Table 1 about here*

These features of the German entrepreneurs differ from the characteristics found in studies in other countries using the same measuring instruments. Compared to entrepreneurs in Russia and the U.S., the overall German entrepreneurial profile was expected to be in-between (Hisrich and Gratchev 1996).<sup>1</sup> As was expected, in the U.S., more entrepreneurs have entrepreneurial experience before starting their entrepreneurial venture than the 28% of the Russian entrepreneurs (Ageev, Gratchev and Hisrich 1995). It was not expected, that the 17% experienced East German entrepreneurs as well as the 11% of West German entrepreneurs who founded a business before, would be significantly less than occurred with Russian entrepreneurs. This could indicate that German entrepreneurs are constrained for another attempt in case of failure, or that German entrepreneurs who are successful continue with their first venture and do not harvest it and then start a new venture.

The businesses, mostly in the service sector as occurred in the other country studies, varied in size in terms of sales and employees. The sales showed a steady increase from 985,458 euros (2000) to 1.025 million euros (2001) to 1.057 million euros (2002) in the overall sample. This increase reflects increasing sales in the West German sample, which

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<sup>1</sup> Even if the data of the international samples were collected seven to eight years ago when the companies were founded, they can be compared with the German sample particularly since the German

was not totally negated by the decrease in the East German sales. Even though the East German companies had higher sales in 2000 (771,626 euros) compared to the West German companies (680,037 euros), in 2002 it was the opposite, 684,219 euros (East German) versus 755,372 euros (West German).

The same holds true for the number of employees including the entrepreneur. The moderate increasing number of employees in the total sample reflects the West German development of a company's personnel, while the East German companies show a steady reduction of employees. The size of the West German staff for 2000 and 2002 (6.39–6.84) is nearly doubled by the East German companies (13.58–12.77), with an average number of employees between 9.31–9.63 (2000–2002) in the overall sample. The ventures employed about 1–2 family members with a slightly higher mean in the East (1.68–1.70) compared to the West (1.45–1.43). These results are reflected in the top management team. The team size in the East (3.95) is higher than in the West (3.10) as well as the number of family members at the top level of management, 1.82 versus 1.33.

These company size factors reveal several interesting findings. First, given the small differences in sales between East and West German ventures in similar industries, the significant lower number of employees in the West indicates *ceteris paribus* a lower productivity in the East German companies. Second, half of the staff in West German ventures is a part of the top-management team, while only a third of the employees in East German ventures work at the top-management level, taking into account that the total amount of employees is higher in the East. Third, these size factors — comparing the East and the West — move towards each other and imply a consolidation if not a down turn in East German enterprises. Finally, the family members appear to be mainly in top-management positions in East German as well as in West German ventures.

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companies show a history of approximately seven years since funding by the KfW SME Bank. Adjustments are

The dominant legal form of the companies was the sole proprietorship — Einzelunternehmen (50%), followed by limited liability corporations — Gesellschaft mit beschränkter Haftung (23%). In terms of personal liability, an important feature of the entrepreneurs' ability to take personal risk, legal forms with personal liability (72%) dominated legal forms without personal liability (28%). Between the two sub-samples no significant differences occurred. Since the majority of the sampled ventures did not have high growth potential, less than 5% were funded with venture capital. The percentage of borrowed funds to equity was an average 46% with no significant difference between East German and West German entrepreneurs. This was as expected given the financial support of the KfW SME Bank, whose programs standardize the funding of the enterprises and support the equity basis of the ventures. Because of the personal liability of the majority of entrepreneurs, outside financing is needed. The outside financing of the German entrepreneurs is similar to the results from the U.S. and higher than the results of the Russian sample, where the businesses were financed mainly by personal assets and savings of the entrepreneur.

The entrepreneurs were also asked about the geographic scope of their company at start-up versus presently. Overall, at start-up the majority of the companies (63%) focused on their local market. More than 20% indicated a regional geographic scope, and the rest (9%) had a nationwide or an international oriented business. This business focus changed for a large number of enterprises following start-up. While the percentage of German entrepreneurs with a local focus declined from 60% to the 40% for both groups, the extent of geographic expansion was different. The biggest change in the geographic scope of East German ventures from start-up to present was at the national geographic scope (9%–22%).

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necessary when comparisons relate to the present and not to the time the venture was funded.

East German companies mainly grew nationally. On the other hand, West German entrepreneurs expanded nationally (9%–14%) as well as internationally (6%–10%).

#### ***4.2 Goals and Skills of the Entrepreneur***

When queried about their departure points and motivations for starting their present entrepreneurial venture, the responses of the German entrepreneurs were similar to entrepreneurs in other countries. Answering the open-ended question about the reason(s) for starting their own company, the dominant departure points were: desiring independence (33%), opportunity (17%), economic necessity (13%), lack of job satisfaction (8%) and family tradition (7%). Except for the latter, which appears to be a German peculiarity, the other four motivations were the same as the departure points mentioned as important in the international samples (Hisrich and Grachev 1995). The frequency of mention was different and differed also among the German sub-samples. East German entrepreneurs scaled economic necessity (sign. 0.013) significantly higher than West German entrepreneurs (.01), while in the West money and wealth were rated significantly higher (.02) than in the East (see Table 2). For men and women entrepreneurs, economic necessity, learning and personal growth as well as recognition were rated significantly higher (<0.05) by women entrepreneurs (see Table 3). For West German women, status and prestige (.06) as well as money and wealth (.05) were significantly more important than for East German women. On the other hand, for male entrepreneurs from the East economic necessity (.05) and recognition (.06) were more important than for their West German counterparts (see Table 4).

*Insert Table 2 about here*

The entrepreneurs were also asked to rate on a five-point scale from poor (1) to excellent (5) their own management skills and business competencies. German entrepreneurs felt they were the best in dealing with people (3.75) and — as if they wanted to fulfil an internationally posited stereotype about a German personal trait — in organizing and

planning (3.64) as indicated in Table 2. Relatively poor skills were in managing information systems (2.86) and technology (2.98). Taken into account that the majority of surveyed entrepreneurs were in the service industry and ran non high-tech businesses, these results for the total sample were as expected. Between East and West there were no significant differences but there were differences by gender. As indicated in Table 3, the gender differences indicated that the ratings in technical skills were significantly lower for women entrepreneurs ( $<.05$ ) as were the ratings of organizing and planning (.06). Men in East and West Germany were not significantly different (see Table 4). While women in the East rated their abilities in idea generation and operations lower than West German women ( $<0.1$ ), interestingly, East German women felt significantly (0.05) better about their technical skills than did West German women. This is probably a tribute to the different educational systems in the past. East German women were less constrained by gender roles in orientating their careers in technical fields than were West German women. Marketing and finance (important functional skills for starting and running a business) were scaled overall in the middle of the ratings. This was different from the other national samples. Russian entrepreneurs were similar to entrepreneurs in the U.S. in that both felt their management skills in marketing and finance were the weakest. But the U.S. and the German entrepreneurs differed from the Russians in that both felt they had much stronger skills in organizing and planning.

*Insert Table 3 about here*

There were more similarities than differences among the groups with respect to the evaluation of business competencies such as negotiating, motivating employees and developing personal business relationships. Oral presentation (3.47) and problem analysis/solving (3.43) ranked the highest in the entire sample (see Table 2). Between East and West just one significant difference occurred – the writing ability (.03). East German entrepreneurs ranked it higher than the West German entrepreneurs, 3.43 versus 3.13.

However, as expected male entrepreneurs felt significantly better about their ability to analyse and solve problems and their quantitative skills than did female entrepreneurs ( $<.05$ , see Table 3). Among female entrepreneurs no important differences occurred. However, male entrepreneurs in the East felt significantly better about their ability to negotiate (.04), their oral presentation (.06) and again surprisingly, their writing ability (.04, see Table 4). Assuming they are not overconfident in their self-evaluation, their capability to write a convincing business plan, to present others their venture idea and to negotiate contracts with their stakeholders were superior to those of their West German male entrepreneurs. Taking into account, that modesty was regarded highly during the socialisation process of East German entrepreneurs the impact of overconfidence on the self-evaluation can be disregarded. Thus, the exact level of the East-Germans' oral and writing skills might be even higher and more positive than reported.

*Insert Table 4 about here*

Responding to a five-point scale, the German entrepreneurs showed a high level of agreement with the statement — “I am satisfied with how I do my job.” (4.12), followed by their satisfaction with the people who work for or together with the entrepreneur (3.83, see Table 2). An average rating (3.04) was given to the future prospects of the company and the respondents showed concerns about their entrepreneurial income (2.85). Although the East German entrepreneurs stated all items with a lower level of satisfaction, concerns about future prospects of their current company were significantly (.06) stronger in the East. Men and women were quite similar in their responses (see Table 3). West German women were significantly more satisfied with their entrepreneurial performance than East German women, even though both ranked it quite high, 4.46 versus 3.95 (see Table 4).

#### ***4.3 Company's Strategy and its Competitive Environment***

The company's strategy and its competitive environment were also investigated in terms of: resources and assets, strategic approach, competitive advantage, break-even, competitive situation in the industry, strategic goals, and major factors affecting company performance.

*Insert Table 5 about here*

*Resources and assets of the company.* 14 items of measuring of competitive advantage of the entrepreneur's company were used (see Table 5). Each item had five categories, from 1 (highly unfavorable) to 5 (highly favorable). The highest ranked items for the entire sample of entrepreneurs were: customer relationship (4.09), reputation and image (4.01), flexibility (3.82), and technological and computer equipment (3.72). Innovation capability as one core feature of an entrepreneurial company ranked in the middle, but still higher than average (3.42) and showed the only significant difference between East and West (.07). West German entrepreneurs, evaluated the company's innovation capability higher than East Germans (3.52 versus 3.17). This difference was driven by male entrepreneurs, who differed significantly in the East and West (.007). Between men and women entrepreneurs, the latter ranked operating/manufacturing plant and facilities (.02) and partnership/alliances (.07) significantly lower, but cash/liquidity (.002) and business location significantly higher (.08). Business facilities and offices (3.56), experienced workforce (3.58), cost efficiencies (3.16) and shared purpose/values among employees (2.99) each ranked above average, but with no significant differences among the groups. Women in the East and West showed only one significant difference – the expertise/knowledge of employees, 3.77 (East) versus 3.13 (West, see Table 6).

*Insert Table 5 about here*

*Strategic approach of the company.* 11 questions were used to access the company's strategic approach in making its business different from competing companies (see Table 5). Each question had five categories ranging from 1 (not emphasized) to 5 (strongly

emphasized). Following the highest ranked strategy of the company — the customer relationship — the most emphasized items were satisfaction of customer needs (4.51), quality control (4.19), quality service/product (4.10) and customer service (4.04). While no significant differences occurred between East and West, women entrepreneurs scored all of these customer and quality oriented items higher and, with the exception of customer service, significantly higher ( $<.05$ ) than men entrepreneurs. East German men entrepreneurs emphasized cost reduction and operational efficiency and employee productivity significantly higher ( $<.05$ ). Between the two groups of women entrepreneurs, only the partnership and alliances showed a significant difference (.09) and it was less emphasized by West German women. As expected, innovations such as product/service development innovation, innovative marketing, technological innovation and first with new products/service received an average ranking for the entire sample of mainly non-innovative enterprises.

*Insert Table 6 about here*

*Company's competitive advantage.* When directly asked using an open-ended question about the competitive advantage of their company, the entrepreneur's focus on customer, service and quality was emphasized. Categorization of the answers using Porter's (Porter, 1980) general types of competitive strategy indicates that an overwhelming majority used a differentiation strategy (86%). 5% were niche players, 1% cost leaders, and 8% did not fit any category. Enterprises, following a differentiation strategy, mentioned service (43%) and quality orientation (33%) as their areas of competitive advantage.

*Break-even.* As a measure for the company's progress as well as the industry's competition, break even should occur for the entrepreneurs as quickly as possible after start-up. 92 % of the enterprises had reached their break-even at the time of the survey. On average, it took them 21.8 months to realize this break-even point.

*Access to external environmental factors.* The results of rating the impact of the ease of obtaining each of 6 external items are indicated in Table 5. Each item had five categories, from 1 to 5 with increasing ease in obtaining the external factor. As expected, the access to equity financing (2.34) and debt financing (2.47) were the hardest to obtain. This gap was partially filled by subsidies of the KfW SME Bank. Also, access to a qualified labor force (2.60) and to distribution channels (2.69) ranked below average in the East as well as in the West, reflecting some infrastructure problems in both parts of the country. For male entrepreneurs, East German men had less difficulty in finding qualified labour than West German men (.09, see Table 6). For both, this still occurred at an unfavourable level. The access to technology (3.50) and to market information (3.51) was considered more favourable than unfavourable for both East German and West German entrepreneurs. Women entrepreneurs rated the access to technology even more unfavourable (2.98) than men entrepreneurs (.003).

*Competitive situation of the company's industry.* 10 questions were used to measure the industry of the company. Each item had five categories ranging from 1 (highly unfavourable) to 5 (highly favourable; see Table 5). The responses of the overall sample reflect the problems of the economic and political situation in Germany. Despite customer demand, which rated just above average (3.08), all other items were rated unfavourably. The worst ranking was given to foreign competitors with a mean of 1.20; foreign competition appears to be a threat for German entrepreneurs, followed by state regulation (1.73), which is felt by the public to be a main cause for the so-called German disease of high taxes, regulation and governmental influence on the market. Given the large amount of service companies within the sample, the fear of substitute products and service because of missing patent protection is high (2.03) as well as the worries about the industry growth (2.18). The respondents have a very clear and consistent picture about the economic weakness of the current market situation

and state regulation in Germany. The West Germans rated the speed of technological change, the ease of new company entry into the industry and the substitution of products (services) more favourable than the East Germans ( $<.05$ ). With other words West Germans consider these items as an origins of business opportunities whether East Germans sense them as threats for their current venture. Therefore, West Germans appear more opportunity seeking and entrepreneurial than East Germans. Given their longer experience in a market driven economic system, this was expected, even if there could have been some expectations that the gap would be smaller because of the bigger economic necessity to start a venture in the East indicated by the respondents.

State regulation, speed of technological change, retail pricing, and substitution of products were rated significantly less favourable by women entrepreneurs than by men entrepreneurs. The analysis of the four groups also showed that the speed of technological change is even less appreciated by East German women entrepreneurs (.02, see Table 6) as well as by East German men entrepreneurs (.08) in contrast to their West German counterparts. Between the two groups of women entrepreneurs, the East German women rated the ease of new company entry into the industry (.01) less favourably for their own venture than West German women. East German women consider market entries as threats and not as challenges which indicates a lower level of entrepreneurial self-conception. The competition within the industry indicated by foreign competitors and the substitution of products was considered stronger by women in the East compared to women in the West ( $<0.1$  and  $<0.05$ , see Table 7). This could reflect the higher competition of East-European competitors in the domestic markets of the New Laender.

*Company's major strategic goals.* The entrepreneurs gave multiple responses to the open-ended question about their major strategic goals for the next three years. To survive (27%) and to secure the status-quo (27%) and to stabilize their company were, as expected, the

major goals, followed by growth (23%) and quality improvement (18%). Thirteen percent mentioned goals such as higher profits or cost reduction. Six percent indicated an improvement of their capital structure.

*Major factors which significantly affected the company's performance.* The factors, which impact the above mentioned strategic goals in the past and in the future, were classified. The main categories were: market development (36–37%), internal resources of the company (32–31%), and political context (25–26%). Technical factors played a minor role (2–3%). The responses were fairly evenly distributed among the groups with no significant shift from the past to the future; the external versus internal factors had more affect on the company's performance.

## **5 Discussion**

The findings will be discussed in terms of major results and implications for entrepreneurial education and training.

### **5.1 Major Results**

This study of German entrepreneurs, using the research methodology and questionnaire used in previous research, provided some useful insights concerning the nature, competencies and educational needs of the German entrepreneur. While innovative features as a core aspect of the company's entrepreneurial activity was low for the entire German sample, the German entrepreneur had more similarities than differences compared to his/her counterpart in the U.S. and Russia. Also, there were a number of similarities between East and West German entrepreneurs following the years of reunification. Yet, East German ventures were formed mainly because of economic necessity while West German ventures were formed because the entrepreneur desired money.

West Germans were relatively more entrepreneurial than East Germans (both groups appear below the U.S. and Russia) as indicated in their self-evaluations and views of external factors, especially competitive items. West German entrepreneurs are more experienced with a market and political system, which develops the self-responsibility and competitive thinking more than the socialistic background and education of East German entrepreneurs. East Germans are more influenced by the competition of Middle and East European competitors. Since decreasing sales, especially for East German enterprises, were occurring to the extent of a potential danger of insolvency, both debt and equity financing is sorely needed.

*Insert Figure 1 about here*

Some significant differences between men and women entrepreneurs occurred (see Figure 1). Women consider mainly qualitative factors such as customer relationship as more important strategic items and areas of their core competencies, while male entrepreneurs focus mainly on quantitative factors such as cost reduction and productivity and feel they have good quantitative skills as well as the ability to organize and plan. East German women considered competitive factors more unfavourable than their West German counterparts (reflecting a difference in their views of risk-taking and the actual market situation), but they felt better about their technical skills (reflecting educational differences and were less constrained by gender roles).

East German men felt stronger about their management skills such as writing ability, oral presentation and ability to negotiate — core abilities needed for entrepreneurial activities. In spite of these differences, there were still overall more similarities between male and female entrepreneurs in East and West Germany.

Finally, the entire sample was satisfied with their status as an entrepreneur despite strong concerns about the overall economic and political situation. Overall, German entrepreneurs were pessimistic about external factors, but optimistic about internal entrepreneurial factors.

### ***5.2 Implications for Entrepreneurship Education and Training***

Entrepreneurship education is a fast growing area in colleges and universities in the USA and Europe. Many universities offer at least one course in entrepreneurship at the graduate or undergraduate level, and an increasing number have a major or minor concentration in the area. It is important for more German universities to follow this trend and offer at least one course in entrepreneurship and some to offer a major or minor in the area.

While the courses in entrepreneurship vary by university, there is a great deal of similarity in some courses in this field of study. These courses, reflecting the overall objective for a course in entrepreneurship, center around: skill identification and assessment; understanding entrepreneurial decision making and the entrepreneurial process; understanding the characteristics of entrepreneurs and their role in economic development on a domestic and international basis; assessing opportunities and coming up with an idea for a new venture; writing and presenting a business plan; knowing how to obtain resources; managing and growing the enterprise; and understanding the role of entrepreneurship in an existing organization – intrapreneurship. Similar content should be a part of the courses in German universities so German entrepreneurs and potential entrepreneurs can receive the proper education and training for successful venture creation and growth.

The skills required by entrepreneurs can be classified into three main areas: technical skills, business management skills, and personal entrepreneurial skills. Technical skills involve such things as: writing, listening, oral presentation, organizing, coaching, being a team player, and technical know how. Business management skills include those areas involved in starting, developing, and managing an enterprise. Skills in decision making,

marketing, management, financing, accounting, production, control, and negotiation are essential in launching and growing a new venture. The final skill area involves personal entrepreneurial skills such as: having inner control (discipline), risk taking, being innovative, being change oriented, being persistent, and being a visionary leader. Appropriate technical, business management, and entrepreneurial skills need to be identified and taught in Germany as well.

Following Ronstad (1990) and Johannisson (1996), the theoretical approaches in entrepreneurship can be classified into the old and the new schools of entrepreneurship thought, with the former focussing on objective know-how and the latter addressing mainly the personality of the entrepreneur. Johannisson (1991) describes the holistic view of the new school having five entrepreneurial competencies. Johannisson adds to the know-how (technological knowledge needed for a specific profession) and the know-what (information) of the old school, he adds the know-why (attitudes, values, motives), the know-who (ability to interact) and the know-when (ability to act suitably). The know-why, the know-who and the know-when are more difficult to learn than the know-what and the know-how (Walterscheid 1998). German entrepreneurial education needs to focus on these latter three things so that present and future German entrepreneurs know the values, attitudes and motives, have the ability to interact, and the ability to act correctly in the various circumstances facing them.

This view of integrated qualifications needed for occupational (Halfpap 1991) and especially entrepreneurial activities (Braukmann 2001, Koch 2002), is indicated in Figure 2.

*Insert Figure 2 about here*

Focusing on the capacity to act occupationally Halfpap (1991) postulates the parallel promotion of expert competency, methodical competency and social competency. Based on the habits, attitudes, values and norms of an individual, the expert knowledge and the

cognitive skills (with an impact on expert and methodical competency), and the ability of problem-solving (with an impact on methodical competency), the abilities to interact and to assume responsibility (with an impact on social competency) generate the overall professional and social competencies to act in an entrepreneurial setting (Braukmann 2001, Koch 2002). This pedagogical approach helps summarize the education and training needs of the different entrepreneurial profiles in Germany. Given their self-evaluation, the sampled women entrepreneurs need to be trained regarding the expert competency of technical skills (East German women less than West German women) and the methodical competency of problem solving. The picture of social competency is ambiguous. The ability to interact is usually thought to be a women's strength. In contrast, the ability to assume entrepreneurial responsibility has to be learned by women entrepreneurs in Germany. Men entrepreneurs in Germany showed a stronger expert and methodical competency, but a lack of social competency. The education of West German male entrepreneurs should especially emphasize the ability to use basic cooperation and communication techniques. Although West Germans felt overall more entrepreneurial than East Germans, this result, based on self-evaluation, also reflects the lack of confidence and modesty of East Germans in contrast to West Germans. These findings need to be taken into account in developing appropriate training programs for present and future German entrepreneurs enabling them to successfully start and grow new ventures.

## **6 Future Research**

Using this integrative concept different entrepreneurship education needs can be identified and considered for educating entrepreneurs in different institutional frameworks in various countries. The results of this study need to be replicated in various country settings and some aspects need to be explored in more depth. It is particularly important to further explore the education needs of German entrepreneurs with respect to international

entrepreneurs in various country settings and particularly in the United States. As all results of this study and the drawn implications are based on self-evaluation future research should consider additional methods such as experiments to test the competencies of the entrepreneurs indirectly.

Future research should look at the role of the environment and the institutional approach to international entrepreneurship. In terms of the environment, it would be interesting to know environmental, strategic, and managerial differences faced by international entrepreneurial enterprises and how to overcome the obstacles created in these different settings. In terms of institutions, future research areas should include: (1) what are the characteristics of institutions with respect to trust, corruption, organization types, and networks; (2) how do institutions help or discourage entrepreneurial activities; and (3) how does success depend on infrastructure.

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**TABLE 1: Descriptive Statistics Sample**

Variable	Total			East			West		
	N	Mean	Percentage	N	Mean	Percentage	N	Mean	Percentage
Sample size	204			54		26.5%	150		73.5%
The Entrepreneur									
Male entrepreneurs	158		77.5%	32		59.3%	126		84%
Female entrepreneurs	46		22.5%	22		40.7%	24		16%
Age of entrepreneur		41.8			43.4			41.2	
Founder of the business			75%			81%			73%
First entrepreneurial effort			87%			83%			89%
Number of previous ventures		1.23			1.00			1.36	
Owner of the business			99%			98%			99%
Percentage of ownership			84%			79%			86%
The Company									
Sales € 2000		985,458			771,626*			680,037	
Sales € 2001		1,025,369			735,244*			716,590	
Sales € 2002		1,057,885			684,219*			755,372	
Employees (including owners) 2000		9.31			13.58*			6.39	
Employees (including owners) 2001		9.35			12.91*			6.56	
Employees (including owners) 2002		9.63			12.77*			6.84	
Family members employed 2000		1.50			1.68			1.45	
Family members employed 2001		1.49			1.70			1.43	
Family members employed 2002		1.49			1.70			1.43	
Top management team size		3.31			3.95			3.10	
Top management - family members		1.42			1.82			1.33	
Legal form with personal liability			72%			72%			71%
Legal form without personal liability			28%			28%			29%
Percentage of sole proprietorship			50%			45%			52%
Percentage of limited liability corporation			23%			22%			24%
Percentage of borrowed funds			46%			47%			46%
Local geographic scope (at start-up)			63%			61%			63%
Local geographic scope (presently)			46%			41%			47%
Regional geographic scope (at start-up)			22%			28%			20%
Regional geographic scope (presently)			25%			31%			23%
National geographic scope (at start-up)			9%			9%			9%
National geographic scope (presently)			16%			22%			14%
International geographic scope (at start-up)			5%			2%			6%
International geographic scope (presently)			8%			4%			10%

\* Means without two outliers in sales

**TABLE 2: Goals and Skills of East and West German Entrepreneurs**

<b>Entrepreneurial motivations</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
Personal achievement	4.26	4.43	4.20	0.108	n.s.
Status and prestige	2.86	2.81	2.87	0.750	n.s.
Economic necessity	3.89	4.17	3.78	0.013	0.05
Flexibility in work/family	4.02	4.04	4.02	0.918	n.s.
Independence	4.25	4.30	4.24	0.560	n.s.
Learning and personal growth	4.01	4.13	3.96	0.187	n.s.
Test my own ideas	3.87	3.72	3.92	0.171	n.s.
Money and wealth	3.44	3.19	3.53	0.022	0.05
Recognition	3.51	3.68	3.45	0.144	n.s.
Satisfying work relationships	4.09	4.09	4.10	0.985	n.s.
<b>Management skills</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
Finance	3.13	3.22	3.10	0.451	n.s.
Dealing with people	3.75	3.87	3.71	0.202	n.s.
Marketing	3.17	3.20	3.16	0.778	n.s.
Idea generation	3.38	3.30	3.41	0.560	n.s.
Operations	3.52	3.32	3.59	0.119	n.s.
Organizing and planning	3.64	3.63	3.64	0.930	n.s.
Managing information systems	2.86	2.85	2.86	0.942	n.s.
Technology	2.98	2.96	2.99	0.909	n.s.
<b>Business competencies</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
Negotiating	3.25	3.30	3.23	0.579	n.s.
Oral presentation	3.47	3.60	3.43	0.138	n.s.
Writing ability	3.21	3.43	3.13	0.026	0.05
Problem analysis/solving	3.43	3.43	3.43	0.977	n.s.
Quantitative competence (math skills)	3.25	3.22	3.26	0.799	n.s.
Motivating employees	3.24	3.23	3.24	0.919	n.s.
Developing personal business relationships	3.26	3.22	3.27	0.727	n.s.
<b>Degree of agreement with following statements</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
I am satisfied with how I do my job.	4.12	3.98	4.17	0.177	n.s.
I am satisfied with the income I earn.	2.85	2.61	2.93	0.118	n.s.
I am satisfied with the people who work for/with me.	3.83	3.75	3.86	0.411	n.s.
I am satisfied with the future prospects of this company.	3.04	2.78	3.13	0.063	0.1

**TABLE 3: Goals and Skills of Men vs. Women Entrepreneurs**

<b>Entrepreneurial motivations</b>	<b>Women</b>	<b>Men</b>	<b>Significance</b>	<b>Significance Level</b>
Personal achievement	4.42	4.24	0.204	n.s.
Status and prestige	2.86	2.84	0.896	n.s.
Economic necessity	4.16	3.85	0.046	0.05
Flexibility in work/family	4.22	3.98	0.136	n.s.
Independence	4.26	4.26	1.000	n.s.
Learning and personal growth	4.22	3.94	0.036	0.05
Test my own ideas	3.84	3.87	0.831	n.s.
Money and wealth	3.25	3.48	0.145	n.s.
Recognition	3.86	3.44	0.008	0.05
Satisfying work relationships	4.25	4.07	0.191	n.s.
<b>Management skills</b>	<b>Women</b>	<b>Men</b>	<b>Significance</b>	<b>Significance Level</b>
Finance	3.24	3.10	0.438	n.s.
Dealing with people	3.88	3.75	0.287	n.s.
Marketing	3.12	3.20	0.652	n.s.
Idea generation	3.24	3.42	0.358	n.s.
Operations	3.53	3.52	0.960	n.s.
Organizing and planning	3.47	3.73	0.066	0.1
Managing information systems	2.49	3.02	0.009	0.05
Technology	2.41	3.16	0.000	0.05
<b>Business competencies</b>	<b>Women</b>	<b>Men</b>	<b>Significance</b>	<b>Significance Level</b>
Negotiating	3.14	3.29	0.207	n.s.
Oral presentation	3.38	3.49	0.366	n.s.
Writing ability	3.33	3.18	0.242	n.s.
Problem analysis/solving	3.24	3.50	0.034	0.05
Quantitative competence (math skills)	2.94	3.35	0.002	0.05
Motivating employees	3.31	3.24	0.564	n.s.
Developing personal business relationships	3.18	3.29	0.431	n.s.
<b>Degree of agreement with following statements</b>	<b>Women</b>	<b>Men</b>	<b>Significance</b>	<b>Significance Level</b>
I am satisfied with how I do my job.	4.24	4.10	0.328	n.s.
I am satisfied with the income I earn.	2.84	2.85	0.944	n.s.
I am satisfied with the people who work for/with me.	3.96	3.83	0.310	n.s.
I am satisfied with the future prospects of this company.	3.06	3.04	0.932	n.s.

**TABLE 4 Goals and Skills between East and West and Men and Women**

	Women				Men			
	East	West	Significance	Sign. Level	East	West	Significance	Sign. Level
<b>Entrepreneurial motivations</b>								
Personal achievement	4.41	4.30	0.642	n.s.	4.44	4.18	0.161	n.s.
Status and prestige	2.55	3.21	0.060	0.1	3.00	2.80	0.360	n.s.
Economic necessity	4.23	4.00	0.434	n.s.	4.13	3.74	0.045	0.05
Flexibility in work/family	4.32	4.09	0.418	n.s.	3.84	4.01	0.423	n.s.
Independence	4.24	4.21	0.911	n.s.	4.34	4.24	0.561	n.s.
Learning and personal growth	4.14	4.29	0.510	n.s.	4.13	3.89	0.151	n.s.
Test my own ideas	3.71	4.00	0.372	n.s.	3.72	3.90	0.292	n.s.
Money and wealth	2.95	3.58	0.045	0.05	3.34	3.52	0.328	n.s.
Recognition	3.64	4.00	0.220	n.s.	3.71	3.34	0.056	0.1
Satisfying work relationships	4.27	4.21	0.811	n.s.	3.97	4.07	0.562	n.s.
<b>Management skills</b>								
Finance	3.18	3.25	0.799	n.s.	3.25	3.07	0.399	n.s.
Dealing with people	3.86	3.83	0.882	n.s.	3.88	3.69	0.238	n.s.
Marketing	3.00	3.22	0.475	n.s.	3.34	3.15	0.348	n.s.
Idea generation	2.82	3.54	0.096	0.1	3.63	3.39	0.307	n.s.
Operations	3.23	3.91	0.062	0.1	3.39	3.53	0.494	n.s.
Organizing and planning	3.45	3.33	0.757	n.s.	3.75	3.70	0.724	n.s.
Managing information systems	2.77	2.08	0.105	n.s.	2.90	3.02	0.640	n.s.
Technology	2.77	2.00	0.049	0.05	3.09	3.18	0.731	n.s.
<b>Business competencies</b>								
Negotiating	2.95	3.21	0.278	n.s.	3.53	3.23	0.042	0.05
Oral presentation	3.43	3.29	0.574	n.s.	3.72	3.45	0.065	0.1
Writing ability	3.36	3.25	0.616	n.s.	3.47	3.10	0.035	0.05
Problem analysis/solving	3.14	3.38	0.318	n.s.	3.63	3.44	0.233	n.s.
Quantitative competence (math skills)	3.05	2.79	0.259	n.s.	3.34	3.35	0.986	n.s.
Motivating employees	3.10	3.39	0.134	n.s.	3.31	3.21	0.482	n.s.
Developing personal business relationships	3.14	3.13	0.971	n.s.	3.28	3.30	0.907	n.s.
<b>Degree of agreement with following statements</b>								
I am satisfied with how I do my job.	3.95	4.46	0.041	0.05	4.00	4.12	0.510	n.s.
I am satisfied with the income I earn.	2.64	3.09	0.218	n.s.	2.59	2.90	0.235	n.s.
I am satisfied with the people who work for/with me.	3.86	3.95	0.747	n.s.	3.68	3.84	0.279	n.s.
I am satisfied with the future prospects of this company.	2.73	3.25	0.146	n.s.	2.81	3.11	0.213	n.s.

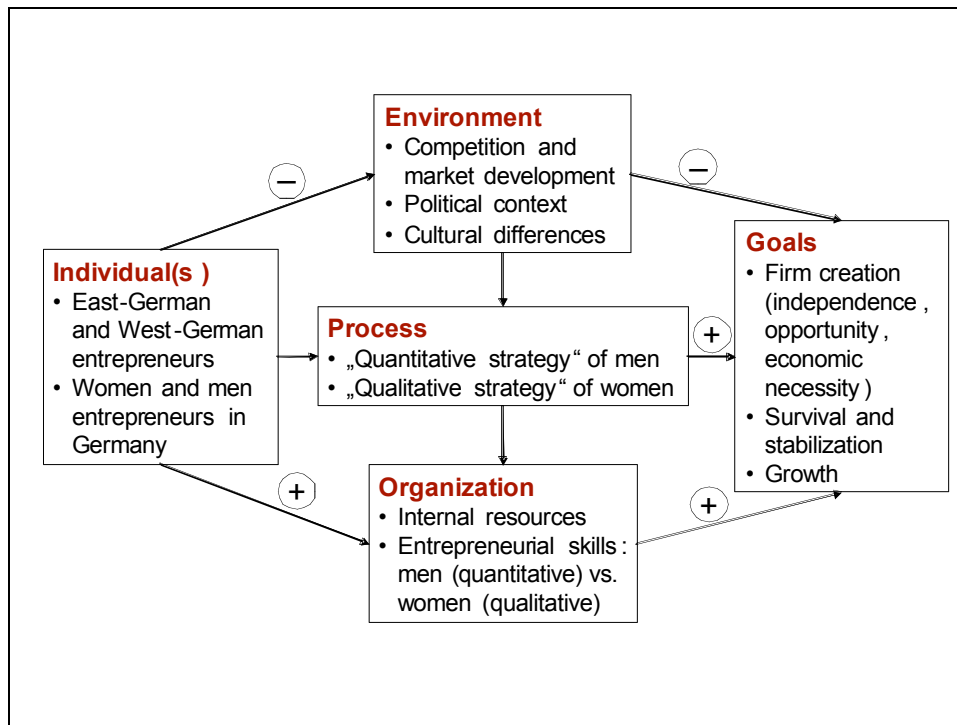
**TABLE 5: Company's Strategy and its Competitive Environment - East vs. West**

<b>Resources and assets of the company</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
Technological and computer equipment	3.72	3.89	3.66	0.223	n.s.
Business facilities and offices	3.56	3.74	3.49	0.178	n.s.
Business location	3.43	3.51	3.40	0.583	n.s.
Operating/manufacturing plant & facilities	2.94	2.96	2.94	0.934	n.s.
Cash/liquidity	2.73	2.76	2.72	0.857	n.s.
Experienced workforce	3.58	3.74	3.52	0.235	n.s.
Customer relationships	4.09	4.04	4.11	0.560	n.s.
Cost efficiencies	3.16	3.13	3.17	0.793	n.s.
Innovation capability	3.42	3.17	3.52	0.070	0.1
Flexibility/ability to adapt	3.82	3.80	3.83	0.795	n.s.
Reputation/image	4.01	3.96	4.03	0.590	n.s.
Expertise/knowledge of employees	3.60	3.81	3.52	0.100	n.s.
Shared purpose/values among employees	2.99	3.08	2.96	0.593	n.s.
Partnerships/alliances	2.44	2.34	2.47	0.616	n.s.
<b>Items in the strategic approach of the company</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
Quality control	4.19	4.35	4.14	0.154	n.s.
Satisfaction of customer needs	4.51	4.57	4.48	0.335	n.s.
Product/service development innovation	3.62	3.47	3.67	0.199	n.s.
Innovative Marketing	3.06	3.02	3.08	0.715	n.s.
Quality service/product	4.10	4.15	4.08	0.612	n.s.
Customer Service	4.04	4.09	4.03	0.607	n.s.
Partnerships/Alliances	2.63	2.79	2.57	0.272	n.s.
Cost reduction	3.47	3.64	3.41	0.153	n.s.
Technological Innovation	3.18	3.31	3.14	0.339	n.s.
First with new products/service	2.82	2.78	2.83	0.797	n.s.
Operational efficiency & employee productivity	3.25	3.40	3.20	0.230	n.s.
<b>Access to external environmental factors</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
Access to debt financing	2.47	2.27	2.55	0.210	n.s.
Access to equity financing	2.34	2.33	2.34	0.961	n.s.
Access to qualified employees labor force	2.60	2.75	2.54	0.319	n.s.
Access to market information	3.51	3.46	3.52	0.740	n.s.
Access to technology	3.50	3.44	3.52	0.709	n.s.
Access to distribution channel	2.69	2.46	2.77	0.144	n.s.
<b>Competitive situation of the company's industry</b>	<b>Total</b>	<b>East</b>	<b>West</b>	<b>Significance</b>	<b>Significance Level</b>
Industry growth	2.18	2.25	2.16	0.658	n.s.
Number of competitors	2.37	2.37	2.38	0.951	n.s.
State regulation	1.73	1.71	1.74	0.918	n.s.
Foreign competitors	1.20	1.06	1.25	0.497	n.s.
Speed of technological change	2.60	2.02	2.80	0.002	0.05
Ease of new company entry into industry	2.88	2.52	3.01	0.017	0.05
Supplier Pricing	2.51	2.21	2.62	0.043	0.05
Retailer pricing	2.23	2.08	2.28	0.364	n.s.
Customer demand	3.08	2.98	3.11	0.422	n.s.
Substitute products/services	2.03	1.55	2.19	0.012	0.05

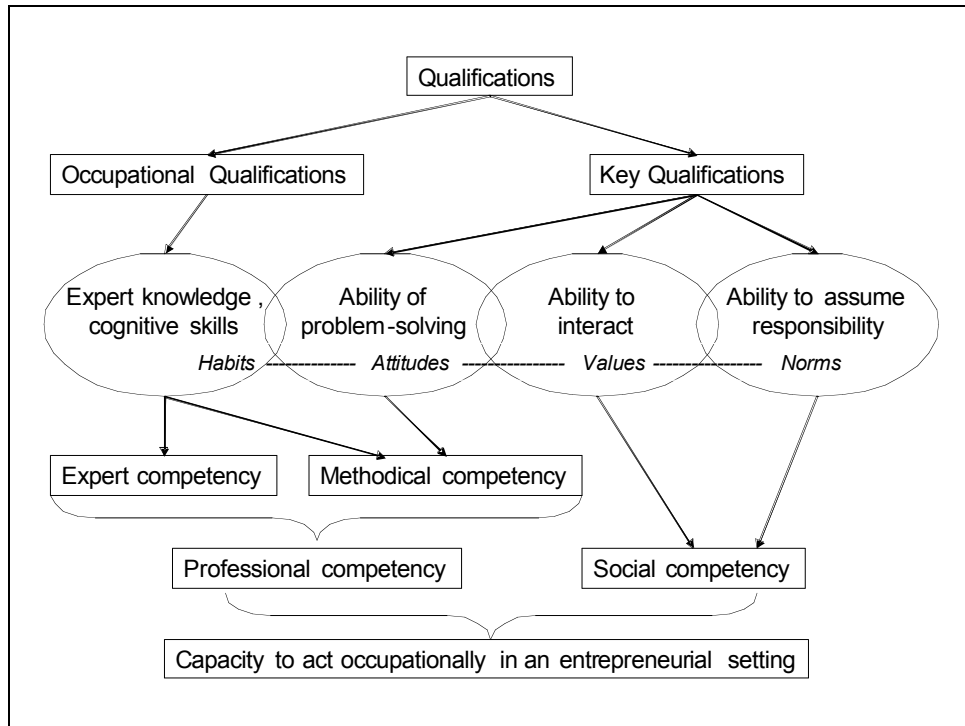
**TABLE 6: Company's Strategy and its Competitive Environment between East and West and Men and Women**

Resources and assets of the company	Women				Men			
	East	West	Significance	Sign. Level	East	West	Significance	Sign. Level
Technological and computer	3.64	3.33	0.408	n.s.	4.06	3.72	0.142	n.s.
Equipment/facilities and offices	3.64	3.30	0.351	n.s.	3.81	3.53	0.213	n.s.
Business location	3.91	3.50	0.270	n.s.	3.23	3.38	0.564	n.s.
Operating/manufacturing plant & facilities	2.25	2.65	0.491	n.s.	3.41	2.99	0.207	n.s.
Cash/liquidity	3.09	3.29	0.504	n.s.	2.53	2.61	0.753	n.s.
Experienced workforce	3.82	3.71	0.779	n.s.	3.69	3.48	0.363	n.s.
Customer	4.09	4.33	0.363	n.s.	4.00	4.06	0.650	n.s.
Cost efficiencies	3.14	3.35	0.476	n.s.	3.13	3.14	0.947	n.s.
Innovation capability	3.41	3.08	0.436	n.s.	3.00	3.60	0.007	0.05
Flexibility/ability to adapt	3.82	3.63	0.574	n.s.	3.78	3.87	0.552	n.s.
Reputation/image	4.00	4.08	0.727	n.s.	3.94	4.02	0.598	n.s.
Expertise/knowledge of employees	3.77	3.13	0.077	0.1	3.84	3.59	0.253	n.s.
Shared purpose/values among	2.86	2.96	0.849	n.s.	3.23	2.96	0.306	n.s.
Partnerships/alliances	2.14	1.83	0.571	n.s.	2.47	2.60	0.686	n.s.
<b>Items in the strategic approach of the company</b>								
Quality	4.50	4.50	1.000	n.s.	4.25	4.06	0.347	n.s.
Satisfaction of customer needs	4.64	4.71	0.644	n.s.	4.53	4.44	0.448	n.s.
Product/service development	3.52	3.71	0.526	n.s.	3.44	3.66	0.242	n.s.
Innovative Marketing	2.95	3.13	0.565	n.s.	3.06	3.07	0.985	n.s.
Quality service/product	4.23	4.46	0.347	n.s.	4.10	4.01	0.604	n.s.
Customer Service	4.14	4.21	0.746	n.s.	4.06	3.99	0.668	n.s.
Partnerships/Alliances	3.00	2.38	0.088	0.1	2.65	2.60	0.874	n.s.
Cost reduction	3.43	3.67	0.378	n.s.	3.78	3.36	0.040	0.05
Technological Innovation	3.19	2.83	0.286	n.s.	3.39	3.20	0.390	n.s.
First with new products/service	2.59	2.88	0.462	n.s.	2.91	2.82	0.736	n.s.
Operational efficiency & employee productivity	3.09	3.21	0.743	n.s.	3.61	3.20	0.032	0.05
<b>Access to external environmental factors</b>								
Access to debt financing	2.35	2.61	0.583	n.s.	2.22	2.54	0.232	n.s.
Access to equity financing	2.11	2.04	0.897	n.s.	2.47	2.40	0.812	n.s.
Access to qualified employees labor force	2.45	2.70	0.586	n.s.	2.94	2.51	0.087	0.1
Access to market information	3.60	3.52	0.825	n.s.	3.38	3.52	0.505	n.s.
Access to	3.30	2.96	0.470	n.s.	3.53	3.63	0.693	n.s.
Access to distribution channel	2.35	2.96	0.146	n.s.	2.53	2.73	0.432	n.s.
<b>Competitive situation of the company's industry</b>								
Industry growth	2.24	2.39	0.655	n.s.	2.25	2.11	0.586	n.s.
Number of competitors	2.30	2.38	0.837	n.s.	2.41	2.38	0.898	n.s.
State regulation	1.06	1.67	0.158	n.s.	2.10	1.75	0.202	n.s.
Foreign competitors	0.45	1.27	0.063	0.1	1.45	1.24	0.560	n.s.
Speed of technological	1.53	2.70	0.024	0.05	2.31	2.82	0.080	0.1
Barrier to new company entry into	2.25	3.35	0.008	0.05	2.69	2.94	0.302	n.s.
Supplier Pricing	2.05	2.45	0.373	n.s.	2.31	2.65	0.153	n.s.
Retailer pricing	1.55	2.00	0.324	n.s.	2.42	2.33	0.725	n.s.
Customer	3.24	3.35	0.684	n.s.	2.81	3.07	0.213	n.s.
Substitute products/services	1.11	2.13	0.041	0.05	1.83	2.20	0.232	n.s.

Figure 1: Profiling of East- and West German Entrepreneurs



**Figure 2: Structure of Qualifications and Competencies to Act Occupationally in an Entrepreneurial Setting**



**Source: a Modified Figure from K. Halfpap (1991), “Ganzheitliches Lernen im Unterricht kaufmännischer beruflicher Schulen“, *Erziehungswissenschaft und Beruf*, 39, 235-152.)**