

The Implementation of TRM Philosophy and 5Qs Model in Higher Education – An Exploratory Investigation at a Swedish University

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ABSTRACT

Students, their families, employers and the government want the assurance that students will get “good quality” education. The question is: what does “good quality education” mean? This paper seeks to provide the answer as well as some concrete criteria and proposals to improve the objectives and quality of the education systems. We argue in this study that the quality of higher education and student satisfaction is a cumulative construct, summing various facets and variables of the educational institution, such as technical, functional, infrastructure, interaction and atmosphere variables. In this research we describe a study involving a new instrument, i.e. the 5Qs model and a new method which assures the reasonable level of relevance, validity and reliability, while being explicitly change-oriented. The main goal of the empirical part of this study is not to evaluate the performance of the staff or to analyze the student assessment or satisfaction, rather to test the new 5Qs model. The use of the 5Q dimensions provides both a structure for designing a higher education quality measurement instrument and a framework for prioritizing results and findings.

Keywords: higher education, University, Quality, TRM, TQM, 5Qs

1.0 Introduction

There is no doubt of the global influence of the quality movement. In the development of all industries (e.g. education, health care, trade, services, manufacturing, etc), world-wide economic integration and growth of the global market situation, quality becomes one of the main factors of organizational competition and success in the national, regional and global spheres (Ruzevicius J., 1995).

Universities world-wide are now competing for students both nationally and internationally. In order to recruit and retain students they should aim to enhance student satisfaction and reduce student dissatisfaction. This can only be achieved if all the services that contribute to “academic life” are delivered to a suitable standard. The students are the sole judges of whether or not this has been achieved therefore student satisfaction surveys should be undertaken on a regular basis and a university's service offering adapted accordingly (Douglas, et al, 2006).

Most of the published academic studies in the services sector have looked only at the link between services quality and satisfaction (e.g. Kelly and Davis, 1994; Parasuraman, Zeithaml, and Berry, 1994, Bettencourt, 1997, Zineldin, 2000). Few studies have been conducted to investigate the link between technical and functional quality dimensions and the level of student satisfaction in the higher education sector. None of the identified studies has empirically examined how the atmosphere, interaction and infrastructure might impact the overall student quality perception and satisfaction.

As higher education institutions are increasingly recognizing that higher education is a service industry, they should place greater emphasis on meeting the expectations (E), needs (N) and satisfaction (S) of their students.

We argue in this study that a student satisfaction is a cumulative construct, summing satisfaction with various facets of the university, such as technical, functional, infrastructure, interaction and atmosphere variables or items.

1.1 Aim of the Research

The aim of the research is to provide some concrete criteria and proposals to improve the quality of the education systems. To achieve the aim we first develop a conceptual model including behavioral dimensions of Student - professor/teacher relationships and student satisfaction. Second, we empirically examine the major factors affecting each group's perception of the cumulative satisfaction.

The result can be used by the university to reengineer and redesign creatively their quality management processes and the future direction of their more effective higher education quality strategies.

1.2 Higher Education in EU

In Europe, there are 4 000 Universities and Higher education institutions with over 17 million students and approx 1.5 million staff - of whom 435 000 are researchers. In recent years, various initiatives have been taken, both by the European Union (EU) and by the Member States, in the areas of education, research and innovation, in order to link them more effectively and to make a stronger contribution to economic growth, employment and social cohesion.

There is still room for improvement, though. Europe is not making most of the commercial opportunities that undergraduate study, research and development bring. Human, financial and material resources are sorely lacking in research and education, and there is no culture of innovation and enterprise in this field. Finally, there is a pressing need for organisational Quality assurance and management models suited to present-day needs.

Globalisation means that the European Higher Education Area must be fully open to the world and become worldwide competitive players. To be complete all universities need to provide high quality education satisfying students and society needs and requirements.

Universities, for their part, need to make strategic choices and implement internal reforms to assure higher quality, student satisfaction and society requirements to enhance their areas of excellence and improve their competitiveness; structured partnerships with the business community and other potential partners which will be indispensable to these changes.

2.0 Quality in Education

A human being made the first tool 1.7 million years ago. Then the idea of quality was found. Foodstuffs' exchange began 10000 years ago. Then the concept of cost was found. During the industrial revolution, i. e. 200 years ago, it became interested in productivity. Therefore concept of quality is much older than other two.

To construct and design an educational or training course or study program are a complex process. The attempt to define specific course and programme learning objectives and outcomes, and then assess them,

has led to the recent revival of Bloom's (1956) mechanistic Taxonomy of Educational Objectives (Yorke, 2002). The design and construction of clear learning objectives and outcomes means that measurement of the success in achieving them is facilitated and simplified (Rowley, 1996; Quality Assurance Agency for Higher Education, 2000a; Rust, 2002). Therefore quality assurance and quality enhancement should be involved, integrated and linked to the learning objectives, outcomes, teaching methods and student assessment. This process is called "constructive alignment" (Biggs, 2003), adapted and disseminated by the Quality Assurance Agency (QAA) Quality Assurance Agency for Higher Education, 2000b).

The imperative to "measure" higher education objectives, outcomes and outputs is part of the managerialism approach (Morley, 1997), where a strategic plan carefully identified the objectives and outcomes to be later on measured in order to be able to judge how well the organisation, e.g. a higher education institution, is progressing (Williams, 1997).

Students, their families, employers and the government want assurance that the students will get "good quality" education. The question is: what does "good quality education" mean?

In many countries, for example, there is no single conception of what is the object of quality in education institutions. Therefore it is important to determine the concept of "university education". Such definition would be a guide in formation of teaching programmes, regulation of education system in a country and would help organize educational institutions. The concept "university education" can not be limited only as person's training for speciality or profession. This concept means that studies of any science are not the only and even the main constituent part of university education. Concentration only e. g. on one discipline (i.e. engineering, economics business, Medicine, Nursing, Arts, Science, etc) gives not much. Some kind of relevant integration between for example, management, psychology, sociology and medical or engendering education gives more.

University education is the one in which foundation is compiled by complex of Socio –humanitarian subjects devoted to psycho –spiritual development and inculturation of person and by conveying knowledge of at least one special social consciousness as the basis for creative and professional activity (Berzinskas G., 1996).

We can argue that the first function of universities is diverse development of a person as precondition of creation of superior individual. In other words to say the main obligation of higher education institutions is to train the intelligentsia.

3.0 TRM and TQM

In our opinion, total quality management (TQM) has had difficulties in being accepted in the university world because it is a vague concept. There are, indeed, many descriptions of TQM, but few definitions.

Although much of their work has been recognized as being relevant to TQM, many of the famous quality gurus have not used the term TQM, For instance, Deming did never use the term TQM. He said:

"... the trouble with total quality management, the failure of TQM, you can call it, is that there is no such thing. It is a buzzword. I have never used the term, as it carries no meaning" (Deming, 1994).

Several attempts have been made to define TQM. Most of these definitions are, in our opinion, rather vague. We can often see formulations such as "a way to ...", "a philosophy for ...", "a culture of ...", "an approach for ...", "a business strategy that ..." and so on.

Therefore we expended the TQM to be a TRM system or a network of interdependent and integrated components that work together to try to accomplish the aim of the system. The main components are:

1. the culture which is the core values of the organization.
2. the techniques, which is a number of activities within the organization to support the values.
3. The tools that sometimes have a statistical basis, to support decision making or facilitate analysis of data.

That tool can be used within self-assessment where everybody in the organization are involved in the self-assessment process.

Definitions of TRM and TQM vary. While TQM focuses on management philosophy, TRM focuses on the totality and integration of different functions inside and outside an organisation or higher education institution. TRM focuses on "totality" of the internal and external functions, qualities and relationships (Zineldin, 2000b). As we will see later in this paper, TRM includes 5 different quality dimensions, i.e quality of object, processes, interaction, infrastructure and atmosphere.

Zineldin (1998, 2000, 2000b, 2004) argues that Total Relationship Management (TRM) highlights the role of quality and customers/students service, the impact of the external environment on business rules and performance, on relationships and networks, on communications and interactions with different actors, other collaborators and employees in different departments/functions.

By consistently using a terminology based on cultures, techniques and tools, the TRM will be well clarified and identified.

In spite of TQM universality till now it is mostly spread in manufacture and in some kinds of service business. However, there are not so much information about TRM and TQM implementation in such spheres as teaching in colleges and universities, research and consulting business.

Total Quality Management emphasizes continuous improvement as a process that places a premium on achievement of customer satisfaction. TRM emphasizes the holistic view, Interaction, multiplicity and integration of different functions inside and outside an organisation. At a university the TRM can be seen as a multidisciplinary approach focusing on the interaction and integration between all university staff and student categories. This requires participation of everyone in the university in the development of shared mission, vision, plans and in the quest for continuous improvement. Students, employees and management's partnerships will require concerted efforts towards the acquisition of knowledge and skills in meeting day-to-day problems and making fast, flexible and effective but low-risk decisions.

Gupta, et al,(2004) refer to TRM by stating that:

"Zineldin (2000) indicates that present day managers should ensure that every employee in all parts of the organization places top priority on continuous improvement of customer (students)-driven quality. Under Zineldin's paradigm of total relationship management (TRM), the firm focuses on all integrated activities within the organization, including internal and external relationships with employees, other stakeholders and collaborators. Collaborators may include students, parents, organisations, bankers, trade unions, politicians, or various public bodies, which do not directly interact with the organization around core organisation's functions, but which provide important ancillary resources to the enterprise as a whole. Thus, the main philosophy behind this holistic approach to company relationships is to facilitate, create, develop, enhance, and continuously improve appropriate and advantageous internal and external relationships (Zineldin, 2000). It is therefore incumbent upon the leadership of the

organization to inspire employees and hold them accountable for utilizing TRM as a tool to achieve a genuine TQS environment.

Finally, TRM is an unforgiving and very demanding process. One weak link and the whole effort can be wasted. Thus, making a quality product demands a lot of cooperation and coordination through the value chain of activities within an organization to produce value for customers. If the customer can be integrated into the product development process, through cooperation and collaboration in real time, an intense relationship can begin.

4.0 Quality Models

In the literature service quality is commonly attributed with two dimensions: technical quality and functional quality (Grönroos, 2000). Technical quality refers to the quality of the service product, i.e. what a customer buys and whether the service fulfils its technical specifications and standards, while functional quality describes the way in which the service product is delivered and how is the relationship between the company and its customers.

Asser et al. (1990) emphasize that quality doesn't improve unless you measure it. Service quality is a multidimensional concept and in order to operationalize it many variables have to be considered. SERVQUAL is a widely used scale to measure different quality dimensions. Originally, as developed by Parasuraman et al. (1985), scale consisted of 10 dimensions used by customer to judge company's service, which were reduced into 5 major dimensions (Berry et al., 1992): tangibles, reliability, responsiveness: assurance and empathy. The SERVQUAL constructs impact are used to measure service quality and to identify service quality gaps but not their root causes for which other approaches are needed (Wisniewski and Wisniewski, 2005).

Although some authors favour the application of TQM and SERVAUAL in academia (Vazzana and Winter, 1997; Hughey, 1997), others insist that the industry possesses of the unique features of total quality management make its application in the core higher education processes questionable (Jaugh and Orwig, 1997; Keller, 1992). Still several authors suggest that TQM and SERVQUAL may be more applicable, and much easier to implement, in administrative and support areas of campuses, such as registration, maintenance, cafeteria, and billing, than in academic instruction. (Jaugh and Orwig, 1997; Keller, 1992; Barnard, 1999). Some efforts have been invested to improve the methods (Zineldin, 2000; 2005, 2006a, 2006b). In this research we describe a study involving a new instrument and a new method which assures a reasonable level of relevance, validity and reliability, while being explicitly change oriented.

5.0 A 5 Qs Model

Zineldin's (2006) 5 Qs Model

It is people, not accounting systems, computer terminals or trading agreements, who can interact or communicate effectively with each other in order to exchange values. Interaction and communication is a moderator between structure/behavioural conditions and outcomes (e.g. satisfaction and commitment levels). Therefore, perceived quality of interaction and communication reflects a student's level of overall satisfaction.

Perceived quality of interaction and communication reflects a student's level of overall satisfaction. The interaction process between the provider and receiver of an educationally service is influenced by the

atmosphere in a specific environment where they co-operate and operate. This is applicable in a university, faculty or department atmosphere where the student, teacher, dean, rector or any administrator are operating.

In turn, the atmosphere is influenced by the characteristics of the partners involved and the nature of the interaction itself. The atmosphere can affect the perceived service quality by improving it or by making it worse.

Zineldin (2006a) expanded technical-functional quality models into framework of five quality dimensions (5Qs):

5.1 Total Quality is a f (q1+q2+q3+q4+q5):

The student satisfaction and intentions model incorporates the 45 independent variables, which were derived from the education, service quality and satisfaction literature. These variables represent five dimensions (5 Qs).

- Q1 Quality of the object** (education or research itself) –functional quality “what Quality”
It measures the education itself ; the main reason of why students are studying at a university.
- Q2 Quality of the process-** technical quality “how quality”. How to deliver the object (lectures, seminars, individuality, flexibility, creativity, filed work, exam forms, etc).It measures how well educational activities are being implemented. Process indicators should receive more attention in the education industry. They can be used to pinpoint problems in service delivery and to suggest specific solutions. Professor, deans, university leader and other personal can use process indicators to monitor activity at their facilities and to guide day-to-day decision-making.
- Q3 Quality of the infrastructure** (competence, financial, technical and human recourses, self assessments, course evaluations, etc) Measures the basic resources which are needed to perform the educational services: the quality of the internal competence and skills, experience, know-how, technology, internal relationships, motivation, attitudes, internal resources and activities, and how these activities are managed, co-operated and co-ordinated.
- Q4 Quality of the interaction** and communication (among staff, between staff and leaders, between staff and students, student involvement, etc). measures the quality of information exchange (tutoring, lectures, individual meetings and supervision, feedback of the student questions and exams, time and accurate of the check up and exams result and even social exchange).
- Q5 Quality of the atmosphere** (quality culture, common interest, common goal, participation of the staff reg. decision making, responsibilities, trust, commitment, authorities, structure of the organization, etc). The relationship and interaction process between the parties are influenced by the quality of the atmosphere in a specific environment where they cooperate and operate. The atmosphere indicators should be considered very critical and important because of the belief that the lack of frankly and friendly atmosphere explains poor quality of education in developing countries. The 5 Qs model is more comprehensive and incorporates essential and multidimensional attributes which are missing in the other models. Such attributes are the infrastructure, atmosphere and the interaction between the student and the educational (providers) staff. Although there are some common factors between the SERVQUAL and the 5 Qs model, the 5 Qs model is more comprehensive and incorporates essential and multi-demonical attributes which are missing in the SERVQUAL model Zineldin, 2006a). Such attributes are the infrastructure, atmosphere and the interaction between the students and the health care staff.

Figure 1 illustrates the 5Qs model and its constructs, where the Total quality (TQ) of the Higher education is the function of Q1-Q5. The TQ is a f (Q1+ Q2 + Q3 + Q4 + Q5).

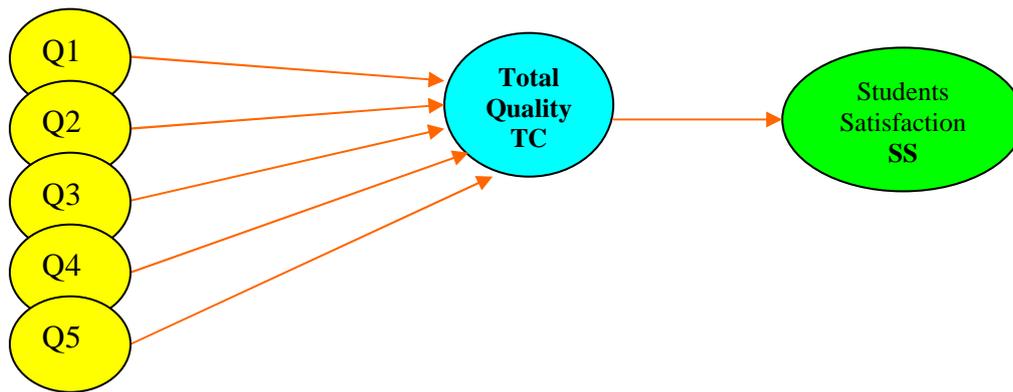


Figure 1. Zineldin's 5 Qs: A Multidimensional TRM based Model of **Higher Education attributes and Students Satisfaction (HS)**

Some studies shows that the level of TQM implementation in education institutions is limited. TRM and its 5 Qs system argue that there is a need to change personnel traditional standpoint of quality to the TRM approach: what we teach (Q1) must be as important as

- Quality of study conditions and quality of content of subject (Q1)
- Subjects Quality of choice of subjects bag most needful for student's specialization (Q1)
- How we teach and why, Working conditions in libraries and reading rooms (Q2)
- Quality of lectures, seminars and practical training (Q2)
- Grants, payment for studies and Quality of teachers (personal characteristics) (Q3)
- Lecture rooms, Computer classes, Internet laboratories and other multimedia systems (Q3)
- Feedback from graduates of institution (Q4)
- Quality of interaction between students/professors/other staff and society (Q4)
- Quality of student involvement of the educational planing and decision making (Q4)
- Students' living place and its surroundings (Q5)

We argue that there is a need for a wide usage of principles, methods and models of TRM by using its 5 Qs tool in improvement and leadership in any sphere of education.

By using a TRM philosophy which includes the 5 Qs and viewing an organization as a collection of interdependent systems and processes, managers can understand how problems occur and can strengthen the organization as a whole.

In practice, however, there are several items/statements combined to each of the 5 Q quality factors and several quality factors. The effect on SS is measured for each quality factor in a simultaneous estimation process. This information can then be combined with the relevant average ratings and presented in a simple matrix or to identify the factors which should be prioritized to achieve greater student satisfaction, i.e. prioritizing improvements in quality factors that have lower rating.

6.0 The Survey/Questionnaire

From the literature review discussed above, a draft questionnaire/student assessment sheet was constructed and tested by some students and other researchers. Respondents were encouraged to identify unclear items, comment on the importance of the research issues, if the respondents could/would complete the questionnaire in the absence of a researcher, and suggest changes. No major problems were presented, and after making the required modifications, the final draft of the questionnaire was developed. The final attributes or statements are designed to fit into the five dimensions of the total quality. All constructs were measured through multiple-item scales and a different 5– point Likert-type response format: very good (weight 5) to very poor (weight 1) poor; Entirely met, not met at all; yes, no; Very high contribution (weight 5) , very low contribution (weight 1) .Appendix I shows some example of the measurements.

In this study we modelled the student satisfaction as a function of the 5Q diminutions based on TRM philosophy. Each dimension includes some relevant attributes. Based on the previous researches and discussion above, these attributes are most important to influence students' satisfaction.

Finally, it should be noted that the main goal of the empirical part of this study is not to evaluate the performance of the staff or to analyze the student assessment or satisfaction, rather to test the new 5Qs model.

7.0 Analysis and Results

This section presents the results of the analysis of the research quality dimensions, based on the propositions that the 5Qs variables are impacting the students' satisfaction.

Q1: Quality of Object “(what quality).

The study shows the student rating their satisfaction with level of objective achievement of the education which performed by the professor/teachers as high as 75%. Although the high satisfaction level, some students state that there was not enough lectures. Some few were confused about the final objective of the course. This is important note or remark which gives opportunity for the teachers to improve its object through quality control measures and trainings. From the physiological point of view, the fulfilling the core education objective is one of the most important factors impacting the level of satisfaction. Figure 3 shows that a considerable number of the students (41%) had been felt very satisfied.

Q2: Quality of the Processes “Caring”

Q2 is the quality of the education processes or functional quality alludes to the manner in which or process by which the education or lecture is delivered. The perception and satisfaction rating of the quality of the processes revealed that 42% of the students are very stratified and 27% are satisfied with they way they perceive their education. On the other hand, some students were complimented about the methodology part which is integrated part of the course run by other teachers. It can mean that the integration of the different parts of the course is not satisfactory. That needs better communication between the lecturers.

Q3: Quality of Infrastructure

Ten items were used to measure the quality of the infrastructure. The very high and high satisfactory level of the lecture is 45%. But if we count very high, high and average, the average satisfactory increase to 74% (3,7). Some students argue that the teacher give very good comments and have great knowledge. Students assess and evaluate their own performance very high, even higher than their academic staff (85%). From the physiological point of view people often try to avoid the feeling of guilt if something

goes wrong. To protect or defence one self, people can try to over estimate their own capabilities and abilities. In this case students can have tendency to blame their teachers rather blaming themselves. That is one of the major dilemma of the objectivity of student assessments. The results of our research reveal also that 50% of the students are not satisfied because thee lectures does not covers an appropriate amount of content of the course for the time allocated/available.

Q4: Quality of Interaction

Quality of interaction measures the quality of additional but critical higher education services such as communication, information exchange, exchange and social exchange, teacher’s ability of stimulating and inspire their students and hence it is another important factor influencing students satisfaction with higher education. Only 18% of students are very high satisfied and 27% are high satisfied regarding the teacher with mainly lecture’s commitment and instruction before and after the seminar, lecture and or exams. On the other hand 50% of students are not satisfied with the teacher’s ability of inspiring and stimulating them for critical thinking. That is a very critical issue which needs more efforts from the leadership of the higher education institutions to train their staff on how to inspire and stimulate the student ability for the critical thinking.

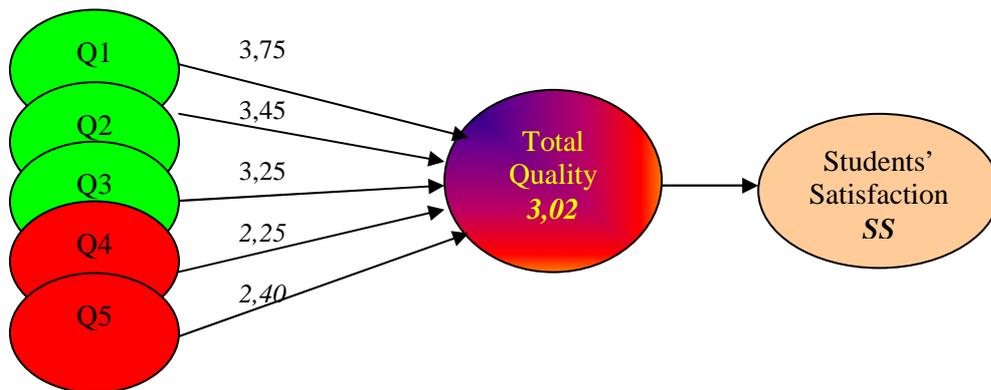
Q5: Quality of Atmosphere

The atmosphere indicators should be considered very critical and important because of the belief that lack of frankly and friendly atmosphere explains poor quality of the higher education which impacts the student performance and results. Ten attributes were using to evaluate the level of students satisfaction of the study atmosphere. Average overall satisfaction of the atmosphere is 48% very good and good (2.40) 50% are not satisfied with some single attributes such as the willingness of the university staff to assist their specific request in different time than the classes time. 41% are also not satisfy with their communication with the other teachers and administrators. (Talib, 2011)

8.0 Discussion and conclusions

Although the main objective of the quality of the object (technical Quality) itself is very high, 75% and the Quality of the process (functional) quality is also relatively high 69%, the average overall satisfaction is lower, 66%. The main reason is that Higher education institutions focus more or only on the quality of education itself and how to deliver it, but relatively ignoring the impact of the other 3 Qs, i.e quality of infrastructure (the teachers competence and skills), quality of interaction (45%) and quality of atmosphere, 48%.

5Q Model: Results



Today's student spend average 4 years of their life at the higher education institution, its not enough for them to get a good education which put them under stress and living in a less good quality atmosphere. Interaction and atmosphere are also important factors for the wellbeing of the students.

Some reasons for the shortcoming of the worst 5 attributes can be lack of resources that leads to that the professor/teachers-students time is not enough to provide a more efficient services. They might be a very productive but less efficient. Low level of efficiency has a positive correlation with the low quality of the services. Some other reasons can be the lack of management skills and the heavy academic staff working load of teaching and researching which leads to insufficient professional control over the education quality.

Our results show that although the overall student satisfaction of the Q4 and Q5 dimensions is acceptable and good; the students are currently not getting high quality services in regard of these qualities in comparison with the other 3 Qs. These results suggest that the faculty/department and staff should undertake significant efforts in faculty education in the area of service quality, Q4 interaction and communication and Q5 atmosphere as well as student satisfaction.

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Author's Background

Prof. Mosad Zineldin is Professor of Economics, Strategic Management and Marketing, served as a Chairman of the Marketing Department at the Linnaeus University, Sweden. He taught at the School of Business, Stockholm University for many years. He has written several books and numerous articles. He is also a reviewer, editor, and a member of editorial board of different International Journals. His latest book *TRM: Total Relationship Management*, (2000) is the first book in the world to outline the framework of relationship management from a holistic totality and multifunctional perspective. His articles have appeared in *European Journal of Marketing*, *International Journal of Bank Marketing for the financial service sector*, *Supply Chain Management*, *Journal of Marketing Intelligence & Planning*, *Management Decision Journal*, *International Journal of Physical Distribution & Logistics Management*, *Journal of Consumer Marketing*, *European Business Review*, *Managerial Auditing Journal*, *TQM Magazine*, *International Journal of Cross Culture Management*, and *Journal of Health Care Quality Assurance*. Some of his articles have been cited with the Highest quality rating by ANBAR Electronic Intelligence and others positioned in the top 10 list by Emerald's readers and reviewers. Zineldin's paper "The Royalty of Loyalty: CRM quality and retention" has been selected as Outstanding Paper and a Highly Commended Winner at the Emerald Literati Network Awards for Excellence 2007.

Ms. Valiantsina Vasicheva from the Minsk State Linguistic University, Belarus, is also a Research Fellow at the Faculty of Business, Economics & Design at the Linnaeus University, Sweden. She had completed a number of joint research with Prof. Zineldin who is also her supervisor.