

**15<sup>th</sup> ANQ Congress Nepal**  
**20-22 Sep. 2017**

*Quality Culture for Sustainable Prosperity*

# 1. KEY NOTE SPEECHES

## 1.1 Keynote Speech I: Prof. Dr. Noriaki Kano

### Biography:



**Professor Emeritus, Department of Engineering, Tokyo University of Science, Doctor of Engineering (University of Tokyo) Honorary Chairperson, Asian Network for Quality**

### Engagements:

- Honorary Chairperson (2005-), Asian Network for Quality .(ANQ: 2002-2004)
- Chairman (2011- ), Selection Committee for Deming Prize for Individuals, 2004-07 Chairman, Deming Application. Prize Committee, 1978-Committee Member, Deming Prize Committee
- Lecturer (1964-), Board Member (2000-), Union of Japanese Scientists And Engineers (JUSE)
- Lecturer (1976-), 2007-12 Board member, The Overseas Human Resources & Industry Dev't Association (HIDA)
- Foreign Honorary Advisor(2006-), China Association for Quality (CAQ)
- Honorary Member(2010-), 2000-02 President, 1971- Member, Japanese Society for Quality Control (JSQC)
- Honorary Member(2012-), Principal Counselor (2012-) Indian Society for Quality(ISQ)
- Honorary Member ASQ (2014- ) 1995-2014 Fellow, 1975-93 Member, American Society for Quality (ASQ).
- 2003-09 Corporate Auditor of Sekisui chemical Ltd.,
- 2006-12 Chair Professor, 2006 Honorary Doctor, Chungyuan Christian University (CYCU, Taiwan)
- 2008-14 Board Director, Komatsu Ltd
- 2006-09 Advisory Professor, Tongji University (Shanghai)

Dr. Kano was invited for research, lecture, and consultation by domestic and overseas quality related organizations. The number of the countries he has visited reaches over 70 countries.

### Publications:

Over 300 papers books including “Attractive Quality”(Kano Method / Kano Model)”, “Guide to TQM in Service Industries” (in English) and “Way to Breakthrough and Creation” (in Japanese).

**Honors:**

- 2014 A. V. Feigenbaum Lifetime Achievement Medal, 2004 Harrington-Ishikawa Medal (APQO)
- 2012 Honorary Member, 2008 Dronacharya Award by Indian Society for Quality (ISQ)
- 2016 Georges\_Borel\_Award for International Achievements by European Organization for Quality(EOQ)
- Ishikawa-Kano Award Established by Asian Network for Quality (ANQ).
- 2009 Kano Quality Award Established by Technological Promotion Association (TPA, Thailand).
- 2009 Distinguished service Medal, 2006 E. L. Grant Medal and 2002 E.JackbLancaster Medal (ASQ)
- 2006 Honorary Doctor, Chungyuan Christian University (CYCU, Taiwan)
- 1997 Deming Lecturer by American Statistical Association (ASA) and many others
- Work Experience 1982-2006 Professor, Tokyo University of Sciences (TUS)
- 1970-1982 Lecturer & Associate Professor, The University of electro-Communications

**Education:**

Completed Undergraduate & Doctoral Courses, Engineering School, And The University Of Tokyo.

# “Service Quality Management in the New Era”

## Abstract

**TQM Promotion in Service Industry:** From the book of *TQM in Service Industries* edited by Noriaki Kano, co-authored by the six experts who were leading quality promotion in service industries in Japan in 1980s such as N. Kano, T. Ikezawa, H. Odajima, Y. Nayatani, A. Harada and T. Yoneyama, and published by JUSE Press in 1990, let us share cases of TQC implementation in 8 service companies including one American electric power company and the seven points which were highlighted based on the frank discussion among the above six experts as the features of service quality management which differs from product quality management.

**GDP Statistics:** GDP study of the economic statistics about service industries in Asia confirms that service industry has become the major or one of the major industries in representative Asian countries.

**Classification of Service Industry:** According to Japan’s Standard Classification of Industries, let us break down services into 12 industries such as: 1) Health / Sanitation / Social Welfare, 2) Information / Communication, 3) Expert / Scientific / Technical Services, 4) Wholesale/Retailer, Governmental Services, 6) Education, 7) Real Estate, 8) Finance / Insurance, 9) Transportation / Postal Services, 10) Electric Power / City Gas / Water 11) Lodging/Dining Services, and 12) Others, among which the former four industries have been remarkably grown for the past twenty years because the growth ratio of [2015 GDP]/[1995 GDP] is greater than 1.2 times while the latter six have been declined because the ratio is smaller than 1.0.

**Hardware, Software, and Humanware:** The top points of the above seven highlighted points “People’s work is a product”, refers to ‘service’ as ‘people’s work’. Let us refer to this ‘people’s work’ as ‘humanware’ in contrast to ‘hardware’ and ‘software’. Let’s abbreviate each of them as Hmn/W, H/W, and S/W, respectively, and consider their examples for lodging services in hotel. In order to provide the lodging service, we must first prepare H/W such as guest room, bathroom, telephone, TV, etc., second S/W such as price system, check-in / check-out time, wake up call, laundry service system, etc, and finally Hmn such as housekeeping, equipment maintenance, room service, telephone operator, manner of staff at check-in / check-out, etc. This indicates that services are not simply people’s work, but they are the joint work of Hmn/W, S/W and H/W.. The priority among H/W, S/W, and Hmn/W is different by the type of service industry and by the customer segment.

**Case of TQM Promotion of A Logistic Company:** As the case of current promotion of TQM in a service industry, let us share the safety enhancement through GPS alert system. By the Pareto analysis of the accidents, the people of this company found unsafe behavior, poor driving skills,

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drowsy, unsafe parking, and truck condition as the major reasons of the accidents and then introduced the alert management system with GPS and smart driver system and then enhanced the effectiveness of this system as TQM activity. At the beginning, the number of alert was quite many but year by year it was reduced and this helped to lower down the number of traffic accidents.

**Contrast between 1960s and New Era:** The reason of the success in this case is dependent of the remarkable development of IT/ICT, video shooting, smart phones, and IoT and this is a good example to demonstrate the application of Process Control and Control by Data in service industry. The following will highlight service quality management in the New Era.

- While, in 1980s, major activity element for service quality was considered mainly Hmn/W, it will be a joint work of H/W and S/W in addition to Hmn/W in the new era.
- While it was difficult for process management and data collection in 1980s, it will become less difficult due to the remarkable development of IT/ICT, video shooting, smart phones, and IoT in the New Era,
- Process standardization is the base of quality of both of services and product.
- For servicing, “on time delivery” is very essential.
- For Hmn/W focused servicing or for tailor-made services,
  - the output of services depends strongly on an individual’s attributes and is not easy to be measured with instruments, and, therefore, evaluation of service quality will come directly from customers.
  - The nature of data is not digital, like numbers; it is analog, like language
  - The flexibility or the ability to adapt to specific circumstances, on-the-spot customization and thinking ahead are required.

**Conclusion: Service Quality Management in the New Era:** Service Quality is not only dependent on Hmn/W but also H/W and S/W. However, elements among Hmn/W, H/W, and S/W differ according to the type of servicing and the type of customer involved.

Today, data collection and analysis becomes remarkably easier due to the dramatic breakthrough in and dissemination of digital camera, video shooting, smart phones, GPS, IT / ICT, and IoT,

Therefore, the application of process management and control by data that was considered difficult will be popular in TQM promotion in servicing.

It seems to me that the gap between service quality management and product quality management will be reducing with the lapse of time.

## 1.2 Keynote Speaker II: Mr. Shinichi Sasaki

### Biography:



### **Advisor and Senior Technical Executive, Toyota Motor Corporation**

Mr. Sasaki has awarded various publication award in November 2015 “Toyota’s built in quality with ownership” December 2014 “Built in quality with ownership”, November 2010 “Quality Innovation Practice of *ji kotei-kanketsu*” Similarly, contributed as a chairman of Central Japan Quality Association and President & CEO, Union of Japanese Scientists and Engineers in June 2014, Executive Director, Central Japan Industries Association in June 2013, Member of the Deming Prize Steering Committee, Deming Prize Committee, Union of Japanese Scientists and Engineers “Jan 2007 to June 2014”

He Appointed Advisor and Senior Technical Executive, Toyota Motor Corporation in “July 2016”, Senior Advisor to the Board and Senior Technical Executive, Toyota Motor Corporation in “June 2013”, Chief Information Systems Officer, Information Systems Group, Toyota Motor Corporation in “May 2010”, Appointed Executive Vice President, Member of the Board, Toyota Motor Corporation in “June 2009”, Chief Customer Service Officer, Customer Service Group, Toyota Motor Corporation and Chief IT & ITS Officer, IT & ITS Group, Toyota Motor Corporation in “June 2008”, Chief Quality Assurance Officer, Quality Assurance Group, Toyota Motor Corporation in “June 2006”, President, Member of the Board, Toyota Motor Europe in “October 2005”, Senior Managing Director, Member of the Board, Toyota Motor Corporation in “June 2005”, President, Member of the Board, Toyota Motor Engineering & Manufacturing Europe in “June 2004”, Plant General Manager, Takaoka Plant, Toyota Motor Corporation and Appointed Managing Officer, Toyota Motor Corporation in “June 2003”, Plant General Manager, Hirose Plant, Toyota Motor Corporation and Director, Member of the Board, Toyota Motor Corporation in “June 2001”, General Manager, Administration Div., Tsutsumi Plant, Toyota Motor Corporation “June 1999”, General Manager, Final Assembly Div., Tsutsumi Plant, Toyota Motor Corporation in “June 1996”, General Manager, Quality Control Div., Tsutsumi Plant, Toyota Motor Corporation “July 1982”, Joined Toyota Industries Corporation from April 1970 to the present.

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Since he joined Toyota Motor Corporation in 1970, he has been continuously working in divisions related to quality and observing Toyota's quality for 45 years. In the midst of circumstances in which social requirements are changing from simply "no failures" to characteristics related to safety, the sophistication of quality control technologies is being enhanced to guarantee high accuracy and control of complex systems.

Having predicted the limitations of a quality assurance system in which defects were found through inspection, He implemented restructuring of the quality assurance system as a company-wide movement through scientific analysis of Toyota's principle for manufacturing, Built in Quality with Ownership. This achievement serves as one of the pillars of Toyota's global business development of today.

**The Progress of TOYOTA Quality  
History & activity background to be recognized as today's  
TOYOTA Quality**

**Abstract**

This year is eighty years since Toyota Motor Co. was established in 1937. Toyota has been pursuing “Customer First, Quality First to present Good Quality products at convenient price for our customer”. To achieve this, we have been accumulating our continuous effort to implement “Build-in Quality with ownership”. TPS (Toyota Production System) is unchangeable our principle and methodology, Just-in-Time is to eliminate waste, JIDOKA is never produce defective parts, also we has been developing to improve TPS more for future.

**Implementation of “ JKK; Ji Koutei Kanketsu”**

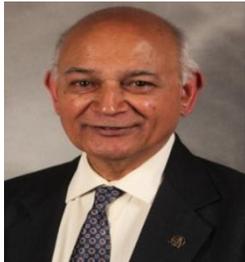
Toyota has been implementing “JKK;JiKouteiKanketsu” based on TPS. Through my UK plant launch, Japan Tsutsumi Plant experience, I decided to strengthen TPS implementation more in actual job process in JKK to assure built-in quality with ownership in each process, not rely on inspection, to approach each job so as not to allow rework. Currently Toyota has been implementing JKK not only production process, deploying to all job process aim to support the sustainable development of TPS, increase employee motivation, respond to technological advancement to enhance the competitiveness of company by creating competitive work process. To share what is JKK?, why is Toyota promoting JKK?, and one of most important intention of persuading JKK is to achieve Built –in Quality, all employees shall perform major roles with a spirit of “Go and See”, while promoting Kaizen action in a “steadfast, sure-footed and through” way.

Keywords;

TPS, Just-In-Time, JIDOKA, JiKouteiKanketsu, Built-in Quality

## 1.3 Key Speaker III: Mr. Janak Mehata

### Biography:



**Director, Intangles Lab Pvt. Ltd.**  
**Chairman, International Academy for Quality (2015-2017)**  
**Chairman & Managing Director, TQM International Pvt. Ltd.**

Mr. Mehta has the unique blend of business experience for 25 years leading to the position of Chief Executive and 29 years of consulting experience guiding organizations on variety of business excellence approaches from Europe, Japan and USA. He has contributed to the development of national infrastructure for quality, standardization and conformity assessment in India and has advised other countries. He contributed to global integration of quality movement as President and later Chair of International Academy for Quality (IAQ) and Chairperson of Asian Network for Quality (ANQ); and through collaboration with American Society for Quality (ASQ), European Organization for Quality (EOQ), Union of Japanese Scientists and Engineers (JUSE), Middle East Quality Association (MEQA) and Asia Pacific Quality Organization (APQO).

For his outstanding contribution, he has been awarded Deming Prize by JUSE - Japan, Lancaster Medal by ASQ, USA and Harrington - Ishikawa Medal by APQO. He has chaired awards committees at IAQ, ANQ and Indian Society for Quality (ISQ) awarding scores of awards in India, Asia and the international level. Some of the Awardees are business leaders of large global corporations.

Mr. Mehta has thus unique experience of business excellence within a company, company-wide covering entire supply chain, Group wide covering all companies in a group, nation-wide, region wide and global. He covers diverse business segments from discreet manufacturing, process industry and service sector including financial, communication, IT, healthcare etc.

## **IOT as Enabler for creating quality culture and sustainable prosperity**

### **Abstract**

The advent of big data, analytics and IOT has made it possible for substantial improvement in quality of processes, products and services that would delight the customer while contribute to creation of quality culture and sustainable prosperity. Quality professionals can make greater impact using latest technologies that are now available.

IOT has made it possible to collect some of the data and information at the point of product / Customer / society interface and actual usage that was not easily available earlier. Such data can be gathered in real time, in large numbers and accurately. This enables quality professionals and problem solvers to achieve much higher level of improvement in shorter time.

In a recent case of work with 'Commercial Vehicle Fleet Operators' it was possible to get real time information to improve driver capability, vehicle availability, on time performance while reducing cost, accidents, emissions and carbon footprint.

## 1.4 Key Speaker IV: Professor Sung Hyun Park

### Biography:



**President and Professor,  
Social Responsibility and Management Quality Institute of  
Korea**

Dr. Park is an Emeritus Professor of SNU in statistics. Professor Sung H. Park has been actively involved in the promotion and enhancement of Design of Experiments (DOE) and Statistical Quality Control (SQC) in Korea since 1977. He has published more than 60 books on statistics and quality management including four books in English; three books in Korean, “Modern Design of Experiments”, “Regression Analysis”, and “Statistical Quality Control”, have been the best sellers since their appearance from 1980s until now. He is pioneer in the area of industrial statistics and quality management in Korea. He was the president of the Korean Society for Quality Management as well as the president of the Korean Statistical Society. He also served as Dean of College of Natural Sciences, SNU, during 2000-2002, and as the chairman of Faculty Council of SNU during 2005-2007.

He is a resource person for the symposiums on Quality Management / Six Sigma sponsored by (APO), which were held in many Asian countries. He has been actively consulting DOE, SQC and Six Sigma for Korean companies such as Samsung Electronics, LG Electronics and Korea Western Power Co. Ltd. Professor Park is the only one academician of IAQ (International Academy for Quality) from Korea, and served as the director in the Directorate for Basic Research in Science and Engineering, National Research Foundation of Korea (2010-2012), the president of Korean Academy of Science and Technology (2013-2016), and a member of Presidential Advisory Council of Science and Technology in Korea (2013-2015).

## **The 4<sup>th</sup> Industrial Revolution and its impact on quality, quality management and quality professionals**

### **Abstract**

We live in the era of the 4<sup>th</sup> industrial revolution in which the newly emerged technologies such as Big Data, Internet of Things (IoT), Artificial Intelligence (AI) and Smart Factory play key roles to change the culture of quality management and the way of innovation. In this paper, first of all, the trend of human civilization and the essence of the 4<sup>th</sup> Industrial Revolution are presented. Also a comparison of the last 4 industrial revolutions is made and the impact of the 4<sup>th</sup> Industrial Revolution is examined.

Secondly, the new concept of quality is studied and presented. The concept of quality will broaden, and it will include safety, social responsibility, value creativity and personalized customization. Thirdly, the new culture of quality management is elaborated in detail. The new culture includes mass customization, quality responsibility, open quality, heavy use of Big Data, multi-way flow of quality management, importance of mobile consumer platform, and emergence of data scientists as quality experts.

There is no doubt that this rapidly changing society needs a new culture for quality, quality management and quality professionals. This paper suggests how to build a new culture for quality management in this software and data-based industrial revolution society.

## 1.5 Key Speaker V: Prof. Dr. Dinesh P. Chapagain

### Biography:



**Founder President and Advisor of Network for Quality, Productivity and Competitiveness Nepal (NOPCN Nepal)**

Industrial Engineer by profession, Dinesh P. Chapagain is a firm believer of quality in products, services, people and the country in their prosperity. Professor of Management and former dean of school of engineering at Kathmandu University Nepal has presented dozens of research papers on quality and productivity in various international conferences and has authored, edited and translated nine books on these subjects. He has worked in large scale public and private organizations from field level engineer to top management. Prof. Chapagain had given advisory services to international government and non-government agencies in policy planning, especially on quality, ICT, and labour relations. He was the main architecture of the National Business Excellence Award (2001) established by FNCCI, and also jury for subsequent years. He established two important institutions for the development of quality in Nepal, NQPCN (Network for Quality, Productivity and Competitiveness Nepal, 2004) and QUEST-Nepal (Quality Circles in Education for Students' Personality Development, 2006). Presently, Chapagain has taken up a mission of promoting Students' Quality Circles for developing each student a highly productive and quality conscious citizen. His book (2<sup>nd</sup> edition) Guide to Students' Quality Circles has been circulated to 35 countries. Prof. Chapagain is conferred with Vice Chancellor Gold Medal by Tribhuban University (1964), Mahendra Bidya Bhusan (1968) and Gorkha Dakshin Bahu (1989) by His Majesty's Government Nepal. Also, Prof. Dinesh P. Chapagain is bestowed with Quality Leader Award (2005) and Life Time Achievement Award (2015) by World Council for Total Quality and Excellence, President's Excellence Award (2010) by Asia Pacific Quality Organization, and Global Award for Outstanding Contribution to Quality and leadership by the World Quality Congress and Awards (Asia Edition). Quality.

**Developing Total Quality Person (TQP) for a Quality Culture:  
An innovative quality educational process initiated at Asia**

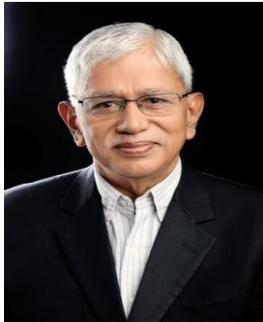
**Abstract**

Sustainable development globally or within an organization is impossible unless we have a mass of quality people with few standard norms, ideas, behavior and customs to help and support each others with happiness, peace and well beings. It is possible to create a quality culture but needs nurturing people in the society with quality mindset. Of course, it is an arduous task and needs a long term strategic educational directions. Students' Quality Circles (SQC), which is an adapted offspring of industrial QCC (Quality Control Circles) by academia to involve students at their early age for collaboratively learning from each other's knowledge and experience to identify, analyze and solve their day to day recurring problems faced at home and schools. In this educational process SQC creates a learning environment to develop children pro-social characters. Young children become slowly good and smart and we call them total quality person, TQP in short. In future, the collective population of these young children creates a quality culture in the society and nation. SQC was initiated at schools in Nepal since the beginning of this century. More than fifty thousand students and one thousand teachers from schools at various parts of the country are participating and practicing the SQC activities. These young kids are talking these days about collaboration, problem solving, quality tools, supporting each others, communication and framing up programs to form a quality culture in the society. In future, all these students are going to be either policy makers, executives, managers and workers in different areas. They are becoming total quality person TQP who have good as well as smart characters. A two-dimensional model, TQP Character Grid is conceptualized to explain these two traits of a person. Moreover, an objectively measuring psychometric instrument with validity, reliability and practicality is also developed to measure individual's TQP Index. An annual TQP award (MM-TQP-A) is also been established in Nepal since 2015 to motivate students to participate in SQC activities at their schools to be a quality citizen for creating a quality culture in the community. Apart from teaching various forms of statistical quality controls, quality system management and quality based business excellence models to adult learners at colleges and workplaces, this innovative educational process, initiated from and practiced in Asian countries, popularly known as SQC (Students' Quality Circles) if introduced at early age of students will definitely develop their quality mindset and create a quality culture which we are expecting and which is a must for the sustainable development of any organization and the world.

**Key words:** *SQC (Students' Quality Circles), TQP (Total Quality Person), TQP Character Grid, TQP Index measuring instrument*

## 1.6 Key Speaker VI: N. Ramanathan

### Biography:



**Independent Counsellor in Quality-based management & Adviser,  
(TQM), SRF Limited**

He is associated for 47 years in industry in diverse roles. From October 2005, he has been independent counsellor, engaged in training and in counselling of select companies and has been associated with seven successful Deming Prize challenges. Mr. Ramanathan took responsibility of President of Indian Society for Quality (ISQ) from 2003-2010. He was Board member of Asian Network for Quality (ANQ) from 2007-2011; Chairman of Awards Committee 2009-10 and founded the Ishikawa-Kano Award. He was Board Member of National accreditation Board for Certifying Bodies (NABCB, part of Quality Council of India) from 2000-2004 and served as Chairman of NABCB from 2004-2008. He was also **CII**, Chairman of the TQM Technical Committee from 1997-2004.

## **Battles over Paradigms**

### **Abstract**

The practice of TQM is not only about tools and techniques, methodologies and mechanisms of management. TQM demands profound shifts in the paradigms that inform managerial decisions. Merely applying improvement methods at the operating level with statistical tools is not tantamount to following TQM. Unless the thinking behind the practices is deeply established, nothing of great value can be achieved. Let us explore the contrast between what we may call orthodox archetypes and TQM.

Take the choice of technology, equipment, or layout. Under orthodoxy, the 'state-of-the art' is chosen. Large, expensive, and automated equipment is bought, scale in mind. Yet, TQM paradigms require at least that the choices be made on principles of flexibility, responsiveness, and customer focus, leading to simplified and perhaps smaller-scale machines, whose potential failures are anticipated and corrected. The two paradigms are poles apart, but convention is hard to change.

Take training of managers. The HR orthodoxy is to take off from training needs collated from performance appraisal. Behaviour based training is valued. Individual development plans are evolved in the abstract. The TQM paradigm on the other hand comes from company needs, is gemba oriented, emphasizes self- and mutual development besides OJT, and builds training that enables objectives and KPI to be met using standards.

Take a third example. In the mainstream method, if samples meet specifications, the bought part or material is OK. This leads to the use of multiple suppliers and frequent changes of vendors based on negotiated price. TQM theory on the other hand stresses the need to control variation. It understands that two materials, though each meets specifications, can behave very differently, as deeper characterizations might reveal. It therefore tends to be sceptical about proliferation of sources of supply.

There are numerous other conflicts at the practical level that hide the underlying paradigm differences. Examples: the way targets are set; drives for increasing 'utilization' of machines or containers; the way standards are set and used; the way reviews of KPI outcomes are conducted; the way costing is done; and so on.

Though meaningful implementation of TQM is not possible without insightful changes of underlying principles, the levers of change are usually in the way things are done and managed. Only an iterative process of changing practices and reflecting on the principles that can eventually lead to a deeply grasped practice of TQM.

## 1.7 Key Speaker VII: Prof. Azat Abdrakhmanov

### Biography:



**President, Asian Network for Quality (ANQ)**

Doctor of Science, Professor AzatAbdrakhmanov is a Chairman of Asian Network for Quality (ANQ), President of the Kazakh Organization for Quality and Innovation Management, Academician of the International Academy of Quality (USA), Assessor, validator and licensed trainer of the European Foundation for Quality Management (EFQM, Belgium), Lead Auditor for Quality Systems, Environmental Management, Occupational health and safety, Energy management (AFNOR, France) and the Republic of Kazakhstan, an Expert of the National Quality Award of the Republic of Kazakhstan "Altynsapa". AzatAbdrakhmanov is the founder of the Kazakhstan National system of standardization and certification of Medicines, Medical equipment and Medical products (1993). He is a founder and the first Chairman of the Board of the State Scientific and Practical Center for Standardization and Certification of Medicines and Medical Equipment "Medstandard" (1994). He was a Head of the Department for Quality Control, Standardization and Certification of the Ministry of Health of the Republic of Kazakhstan, Member of the Board of the Ministry of Health of the Republic of Kazakhstan (1993-1997).

AzatAbdrakhmanov is the editor-in-chief of the monthly newspaper "Quality World" published in Kazakhstan from 2002 which is the only one title in the Euro-Asian region that successfully propagates international experience and achievements of the best companies in the field of the implementation of ISO international standards and modern Business Excellence Models.