Stephen J. Ujvarosy

1623 Madison, Evanston IL 60202 USA

847/875-7206/cell 847/475-1640/tel /fax steveuj@telchar.com

Capital Markets Technology Assessment and Planning, Network Planning and Infrastructure, Telecommunications, Strategic Planning, Group Facilitation, Marketing, Technical and Business Planning. Positioning Capital Markets organizations for increased productivity and profitability through intelligent application of appropriate technology.

CAREER EXPERIENCE

President, Telchar Systems, Inc., Chicago, IL 1985-Present

Provided advisory services relative to the design and implementation of information systems for institutions in the securities industry, including regulatory bodies and derivative trading companies, as well as for legal and non-profit entities, manufacturing and construction enterprises. Conducted numerous consulting assignments for international and domestic clients involving telecommunications and network planning, as well as the evaluation and implementation of management information systems. Assignments have taken me to over 70 countries throughout the world. The following is a description of recent Capital Markets related projects for United States Agency for International Development (USAID), United States Trade and Development Agency (USTDA), Asian Development Bank (ADB), World Bank (WB), International Monetary Fund (IMF), Swiss State Secretariat for Economic Affairs (SECO), African Development Bank (AfDB), European Union (EU), International Development Agency (IDA), the Australian Agency for International Development (AusAID); the Philippine Australian Governance Facility (PAGF) and Technical Assistance Management Facility (TAMF):

Uzbekistan: Financial Markets Development Program Diagnostic Studies- Served as the International Capital Market Infrastructure Expert on this Asian Development Bank sponsored project with the Capital Markets Development Authority. Specific tasks included (i) Diagnostic report on all aspects of Capital Markets related technology and systems. (ii) Short and medium term action recommendations to improve Capital Markets technology infrastruture (iii) Draft ICT development roadmap (2019-2020)

Myanmar: Capital Markets Development Plan Diagnostic Analysis- Served as the International Capital Market Infrastructure and Payment Expert on this Asian Development Bank sponsored project. Specific tasks included (i) Diagnostic report on all aspects of Capital Markets related technology and adequacy of the physical infrastructure to support capital market development. (ii) Technology component of a Draft Capital Market Development Plan (iii) Draft ICT development roadmap (2019-2020)

Palestine: Develop system requirements for Supervision and Inspection Department of the Palestinian Monetary Authority-ICT Analysis and procurement for Palestine Monetary Authority-Serving as Technology and specification expert for PMA to procure Regulatory Management system.(i) Assess existing technology, (ii) develop software requirement specification, (iii) identify qualified vendors, (iv) Support procurement process (2019)

Kenya: Financial Sector Support Project (FSSP) Strengthening Institutions- Served as the Information Technology Expert on this World Bank sponsored project to strengthen the capacity of the Capital Markets Authority of Kenya. Specific tasks included (i) Gap analysis of information requirements

and develop specifications for an Information Repository and Advanced Financial Analysis System (both for improved surveillance); an eLearning system and attendant communication / ICT infrastructure. (ii) Review Business Processes and information flows (iii) Develop specifications (iv) Develop procurement and implementation plans (v) develop tender documents (vi) Provide project management assistance to CMA during procurement and implementation {2017-2020}

Sri Lanka: Pension Reform Project for Sri Lanka Employee Provident Fund- Served as the Information Technology Expert on this ADB sponsored project. Specific tasks included (i) assessing current EPF technology (ii) develop gap analyis (iii) conduct Business Process Review (iv) Lead EPF/CBSL team through BPMN prepartion for short and long term solutions (v) identify short term soultions for EPF (vi) develop requirements specifications for select short term solutions (vii) develop ICT procurement plan for short term solutions (viii) develop high level specifications for complete new system {2017-2018}

Myanmar: ICT Analysis and procurement for Debt Management Division– Served as the Information Technology Expert on this ADB sponsored project. Specific tasks included (i) assessing current MoF DMD technology (ii) requirements specification and contract for CS-DRMS software. (iii) List available hardware & software vendors of equipment to support CS-DRMS, prepare send out RFQ, evaluate bids, assist in selecting vendors (iv) Supervise Installation & implementation of all hardware, software (v) Hire & supervise system administrator (vi) Oversee Training process. {2014-2018}

Ghana: National Pensions Regulatory Authority – Served as the Information & Communications Technology Expert on this SECO sponsored project. Specific tasks included (i) assessing current systems technology (ii) review procedures; processes and infrastructure (iii) recommend procurement plan for Risk based regulatory system. (iv) prepare Requirements Specification for Request for Proposal. (v) assist in the procurement process. {2015}

Cambodia: Ministry of Economics and Finance – Served as the Information & Communications Technology Expert on this IMF sponsored mission. Specific tasks included (i) review and assess the Procurement plan and contract for a Financial Management Information System (ii) review procedures, processes and infrastructure components (iii) Recommend steps to improve opportunities for a successful implementation. {2014}

Malawi: Reserve Bank of Malawi – Served as the Information & Communications Technology Expert on this WB sponsored project. Specific tasks included (i) assessing current systems technology (ii) review procedures, processes and infrastructure (iii) Recommend procurement plan for Risk based regulatory system. (iv) prepare Requirements Specification for Request for Proposal. {2013-2014}

EAC: East African Regulatory Authorities – Served as the Information Technology Expert on this WB sponsored project. Specific tasks included (i) assessing current systems technology (ii) review procedures, processes and infrastructure (iii) Recommend plan for EAC wide Regulatory Risk based regulatory system strategy. {2013}

Azerbaijan: Capital Markets Modernization Project – Serving as the ICT expert for adoption of an effective capital markets regulatory framework and infrastructure on this IBRD/SECO funded project. Specific tasks include (i) assessing current systems technology (ii) review procedures, processes and infrastructure (iii) Recommend action plan for regulatory system consolidation and development. (iv) Draft the technical specifications for IT system (ToR) (v) assist in preparing bidding documents (RFP). (vi) Provide technical input for selecting the appropriate system(s) (vii) Oversee the vendor's installation and testing {2012-2013}

United Kingdom: Analysis and Recommendations for Revisions of Distributor Agreement - Served as the Information Technology Expert to review the Distributorship strategy and agreement for Commonwealth Secretariat for their Debt Management Software system and services to non-commonwealth countries. Specific tasks included (i) assessing current systems technology (ii) review distributorship agreement (iii) Develop Assessment tools and conduct on-site interviews with clients. (iv) Recommend technology strategy for current and upgraded products and the appropriate distributorship model and agreement(s). {2012-2013}

Botswana: ICT Diagnostic Analysis and Development Plan for Non-Bank Financial Institutions Regulatory Agency – Served as the Information Technology Expert on this AfDB sponsored project. Specific tasks included (i) assessing current systems technology (ii) review procedures, processes and infrastructure (iii) Recommend action plan for Regulatory Risk based regulatory system development. (iv) Oversee tender and procurement process. {2011-2014}

Colombia: ICT Diagnostic Analysis of National Treasury and Debt Management technology for Ministry of Finance and procurement – Served as the Information Technology Expert on this IMF/SECO/WB sponsored project. Specific tasks included (i) assessing current treasury and debt management systems technology (ii) review business continuity plan (iii) Recommend action plan for new system development. (iv) Review and recommend available software and hardware for improving Treasury, Debt and Document management systems and related subsystems, (v) review RFPs and assist in vendor selection and (vi) assisting and overseeing installations. {2010-2012}

Iraq: Planning and Implementation of a Legislative Management System for Parliament of Iraq – Served as the Overall Project Manager for Daystar on this USAID sponsored project. Specific tasks included (i) codeveloped proposal (ii) managed all aspects of planning process (iii) Implemented actual System on-site in Baghdad (iv) Managed Training Process.in Baghdad. {2010-2011}

Mongolia: Economic Policy Reform and Competitiveness Project – Served as the Senior ICT Advisor to the Financial Regulatory Commission on this USAID sponsored project. Specific tasks included (i) Implement IT Blueprint for the Financial Regulatory Commission (ii) Oversee implementation of FinA Financial Reporting system (iii) develop simplified market surveillance system (iv) Implement basic document management system (v) plan and implement connections to Stock Exchange, Clearing house and other capital markets participants. {2010-2011}

Mongolia: Capacity Building for Financial Sector Reform – Served as the Financial Supervisory Information Systems Specialist on this Asian Development Bank sponsored project. Specific tasks included (i) Implement IT Blueprint for the Financial Regulatory Commission (ii) Update overall IT Blueprint for internal and external systems (iii) develop Request for Proposal for comprehensive FRC database and (iv) Review and recommend available software and hardware for improving Securities Commission regulatory management systems. (v) plan and implement connections to Stock Exchange, Clearing house and other capital markets participants. (vi) implement solutions using open source applications. (vii) develop on line system for financial reporting. {2009-2010}

Brunei: ICT Diagnostic Analysis and eGovernment review for Ministry of Finance – Served as the Information Technology Expert on this ADB sponsored project. Specific tasks included (i) assessing current payment systems technology (ii) review eGovernment project (iii) Recommend action plan for payment system development. {2008-2009}

Indonesia: ICT Analysis and blueprint for Directorate General Debt Management – Served as the Information Technology Expert on this AusAID sponsored project. Specific tasks included (i) assessing current DGDM technology (ii) gap analysis and requirements specification. (iii) Review and provide a list of available software vendors of Debt Management systems and send out RFI (iv) Develop short term action plan (v) recommend procurement process and draft tender specifications for short term

acquisitions. {2008}

Vietnam: Feasibility Study for Central Depository – Served as the Information Technology and Systems Expert on this World Bank sponsored project. Specific tasks included (i) assessing current depository technology (ii) Design technical software functional specifications and architecture (iii) Review and provide a list of available software and hardware vendors of Depository systems and send out RFI (iv) assessing RFI responses and list vendors to receive RFP and design RFP process (v) design procurement process. {2008}

Vietnam: Feasibility Study for IT systems for State Capital Investment Corporation – Served as a Information and Communications Technology Expert on this USTDA sponsored project. Specific tasks included (i) assessing current SCIC internal technology (ii) review SCIC current business processes (iii) Review and recommend available software and hardware for improving SCIC process and technology (iv) Review and recommend software and hardware strategy for SCIC (v) prepare bidding documents. {2008-2009}

Mongolia: Capacity Building for Financial Sector Reform – Served as the Financial Supervisory Information Systems Specialist on this Asian Development Bank sponsored project. Specific tasks included (i) assessing current Financial Regulatory Commission and capital market technology (ii) Creating overall IT Blueprint for internal and external systems (iii) develop specifications for comprehensive FRC database and (iv) Review and recommend available software and hardware for improving Securities Commission regulatory management systems. {2006-2007}

Nepal: Institutional Development of the Securities Market – Served as the Information Technology and Systems Expert on this Asian Development Bank sponsored project. Specific tasks included (i) assessing existing capital market technology (ii) Review and develop software and hardware Requests for proposal for improving Stock Exchange and Company Registration office systems (iii) assessing current State Securities Commission internal technology and (iv) Review and recommend available software and hardware for improving Securities Commission regulatory management systems and (v) review RFPs and assist in vendor selection and (vi) assisting and overseeing installations. {2005-2007}

Vietnam: Capital Market Development– Served as the Information Technology and Systems Expert on this World Bank Bank ASEM sponsored project. Specific tasks included (i) assessing current capital market technology (ii) Review and recommend available software and hardware for improving Exchange, Clearing & Settlement and Depository systems (iii) assessing current State Securities Commission internal technology and (iv) Review and recommend available software and hardware for improving State Securities Commission regulatory management systems. {2005}

Pakistan: Capital Market Development– Served as the Technology and Systems Expert on this Asian Development Bank sponsored project. Specific tasks included (i) assisting SECP in assessing current year development plan (ii) Review and recommend components for on-line eSubmission system for data collection (iii) develop strategy for selection and implementation of surveillance system and (iv) designing, conducting, advising, or recommending the necessary training workshops and seminars on project management and surveillance systems; and reviewing and identifying appropriate overseas training opportunties; (v) assisting in specification and selection of electronic market surveillance system; and (vi) developed submission templates & strategies for Insurance Industry reporting. {2004-2005}

Philippines: Capital Market Development– Served as the Management Information Systems Expert on this Asian Development Bank sponsored project. Specific tasks included (i) assisting SEC in assessing five year development plan (ii) Revising strategy to focus on deliverable systems (iii) develop strategy for implementation of (appropriate technology) surveillance system and (iv) designing, conducting, advising, or recommending the necessary training workshops and seminars on surveillance management information; and identifying appropriate overseas resources and support mechanisms. {2002-2003}

Indonesia: Financial Governance Reform Project Capital Market Component (Assistance to BAPEPAM) – Served as the Management Information Systems Expert on this Asian Development Bank sponsored project. Specific tasks included (i) assisting BAPEPAM staff in identifying management information required for decision making and control at various levels; and evaluating the adequacy of BAPEPAM's existing MIS, computer systems and computerization plans; (ii) assisting BAPEPAM staff in devising measures to enhance the overall operations of BAPEPAM's management information system, records management and computer facilities; and recommending phased implementation plans; (iii) assisting BAPEPAM staff in computerizing BAPEPAM's operations where appropriate, assessing and recommending on the selection of appropriate software packages, their development and maintenance; (iv) assisting BAPEPAM staff in formulating comprehensive operational procedures and drafting relevant manuals and guidelines to operate its updated computer facilities; and (vi) designing, conducting, advising, or recommending the necessary training workshops and seminars on management information; and identifying appropriate overseas regulatory bodies for the placement of BAPEPAM staff as interns. {1999-2000}

Egypt: Telecomm Development for the Sales tax Authority and Income Tax Authority- Served as Telecommunications Systems Specialist to plan a nationwide electronic tax collection strategy. {2000}

Thailand: Information Disclosure and Compliance Project - Served as the Data Management and Control Specialist on the Asian Development Bank's Information Disclosure and Compliance Project in Thailand. Specific responsibilities included (i) in coordination with the Corporate Governance and Disclosure Specialist, undertaking a complete review of disclosure and compliance requirements currently in effect in the securities industry in Thailand; (ii) designing an appropriate information and reporting system for generating and disseminating and for storing and retrieving required data for meeting disclosure and compliance requirements; (iii) establishing a system for processing the required information, defining trigger points for SEC and SRO intervention; and (iv) defining hardware/software applications to meet the needs of the information system in coordination with the Corporate Governance and Disclosure Specialist and recommending suitable available systems. {1998-1999}

Romania: Institutional Development of the Securities and Exchange Commission (CNVM) - As a technical consultant for USAID to the Securities and Exchange Commission of Romania, outlined a management information system which would serve the Commission's internal needs and enable the Commission to effectively monitor and regulate the new capital markets. Analyzed existing infrastructure and developed and implemented a fully operational Local Area Network primarily using local resources. Negotiated the installation of two Legislative tracking software systems, which were the first two working applications on the network. Specific tasks included (i) evaluated the information technology staff and determined their immediate needs; (ii) obtained a legislative management system, modified the system to meet the needs of the Commission, and installed it to automate the regulatory process; (iii) designed the specifications for an addition to the CNVM's Registrar system which would record filings, as well as to report non-filings and discrepancies; and (iv) worked with the legal team in overseeing the procurement and installation of the hardware. Tested the computers that had been purchased, acquired and installed the missing hardware and got the system up and running. {1996-1997}

Ukraine: Institutional Development of the Securities Commission - Served as Management Information Systems Specialist on this USAID-sponsored project to develop the institutional capabilities of the securities market regulatory institution in the Ukraine. Reviewed the existing system and advised on the strategy for collecting data from remote sites and integrating data collection and processing systems. Also requested a budget reallocation to strengthen network shortcomings. {1996-1997}

United Kingdom, United States, and Yugoslavia: Planned and implemented transatlantic data communications services for the largest options and futures company in the world. Installed international electronic mail system for this overseas development and trading firm.

United Kingdom: Contracted by Chicago Research and Trading to set up their European operation. Was

fully responsible for installation of all computer systems, telephone systems, and the implementation of international transatlantic services. Selected teleconferencing systems and equipment including computer teleconferencing for international networking and planning for audio and video teleconferencing for future implementation.

International Urban Associates Chief Operating Officer

IUA is a one-of-a kind not-for-profit organization that consults with the most successful urban ministry directors in large cities of the world to (i) develop leadership skills; (ii) create local, regional and international partnerships; and (iii) create global networks for mutual support and sharing of knowledge. Responsible for management systems development, financial management, international planning, and contract management.

As senior manager for both administration and programs, developed and implemented creative and successful technological and management strategies to serve the organization and the urban ministry leaders, executives and educators from around the world. Introduced effective, cost efficient communications and office automation technology to increase IUA's productivity.

As a Senior Associate for International Development, partnered with international colleagues in the Pacific Rim, Africa, India, Latin America, Europe and Canada to create specialized consultations to re-examine how ministry is done in the largest cities of the world. Also created and managed the 1994 Urban Strategy Institute at the Carter Collaboration Center in Atlanta, GA, that pioneered a new set of high and low technology tools for accessing and sharing urban ministry knowledge.

Digital Trading and Technology Managing Director/President

Responsible for corporate management, systems planning, sales and support of computer systems, area networks and telecommunications equipment. Built a technical services department, a sales force, an accounting and financial management group and an international trade entity. Provided computer and local area network sales and service to developing areas such as Africa, Eastern Europe, China and Southeast Asia. To support overseas sales, DTT developed cost effective and efficient procedures for shipping, export licensing and long-distance technical support.

DTT was approved as a USAID vendor and successfully closed USAID sales in East Africa. DTT successfully negotiated sales contracts and installed and supported computer systems in the People's Republic of China, Yugoslavia and Kenya.

Stenograph Corporation Vice President, Marketing Services

Initiated, specified and introduced new products, features, services and peripherals to make product lines more competitive and to generate new revenues. Also served as consultant to the president and to parent and subsidiary corporate officers, providing marketing/technical evaluation for new corporate acquisitions and supplying telecommunications/marketing support for subsidiary companies; managed a manufacturing/technical support/service branch in Texas.

Selected and managed outside software consultants. Evaluated and recommended hardware and software vendors for new products. Negotiated pricing and royalty agreements with hardware and software

vendors; supervised alpha and beta tests.

As Director of Product Management, proposed and introduced new products, features, peripherals and services that successfully increased both sales and market share. Also devised plans to upgrade current customers to new products to ensure continued customer satisfaction; supervised the production and revision of user manuals, managed new and revised software releases, instituted Stenograph's first system for reporting, tracking and correcting software problems, and created Stenograph's first corporate product/marketing plan.

A.B. Dick Manager of Data Communications

Responsible for the integration of communications technologies into word processing systems. Originated and implemented Data Communications strategies and capabilities for both Local Area Networks and Telecommunications Systems for the three lines of A.B. Dick Word Processing equipment; developed first corporate strategy for Data Communications training.

Developed comprehensive long-range product plans to supplement existing lines of equipment and supplied Business and Financial Planning for these new products; key company resource for Field support and VIP presentations; lectured in Sales and Customer training courses.

Successfully coordinated efforts between Upper Management, Research & Development, Engineering Operations, and Manufacturing to bring new products to market.

Developed a three-phase corporate strategy for A. B. Dick to bring the company into a competitive position in Data Communications within the Word Processing Industry. Phase I resulted in additional sales without development expense. Phase II provided software improvements to enhance compatibility with other computers and Word Processors. Phase III introduced new combinations of hardware and software to support advanced protocols.

Teletype Corporation (AT&T) Senior Engineer

Served as Project Manager for introduction of new data products, including Product Life Cycle Management, Forecasting, Market Analysis, Analysis of Competitive Products, Sales Training, Customer Relations, and Market Strategy Development.

As Senior Engineer for Product Management, negotiated major sales contracts and technical support for new products. Also responsible for product improvements and enhancements and for developing new applications for standard products.

EDUCATION:

B.S. Electrical Engineering, University of Wisconsin, 1970.

NATIONALITY:

American

LANGUAGE FLUENCY:

English (Native language)