

CT-95/02

COMPETITION TRIBUNAL TRIBUNAL DE LA CONCURRENCE		P R O D U C T I O N
APR AVR	1 1996	
REGISTRAR - REGISTRAIRE		
OTTAWA, ONT.		#77

**THE COMPETITION TRIBUNAL**

**IN THE MATTER OF** an Application by the Director of Investigation and Research under sections 79 and 105 of the *Competition Act*, R.S.C. 1985, c. C-34 as amended;

**AND IN THE MATTER OF** an abuse of dominant position in the supply of shared electronic network services for consumer-initiated shared electronic financial services.

**BETWEEN:**

**THE DIRECTOR OF INVESTIGATION AND RESEARCH**

Applicant

- and -

**BANK OF MONTREAL, THE BANK OF NOVA SCOTIA,  
CANADA TRUSTCO MORTGAGE COMPANY,  
CANADIAN IMPERIAL BANK OF COMMERCE,  
LA CONFEDERATION DES CAISSES POPULAIRES ET  
D'ECONOMIE DESJARDINS DU QUEBEC,  
CREDIT UNION CENTRAL OF CANADA,  
NATIONAL BANK OF CANADA, ROYAL BANK OF CANADA,  
THE TORONTO-DOMINION BANK and INTERAC INC.**

Respondents

- and -

**TELPAY, A Division of CTI-Comtel Inc.,  
RETAIL COUNCIL OF CANADA,  
CANADIAN LIFE AND HEALTH INSURANCE ASSOCIATION,  
MIDLAND WALWYN CAPITAL INC.,  
RICHARDSON GREENSHIELDS OF CANADA LIMITED,  
MACKENZIE FINANCIAL CORPORATION  
and TRIMARK INVESTMENT MANAGEMENT INC.**

**COMPETITION TRIBUNAL  
TRIBUNAL DE LA CONCURRENCE**

**AFFIDAVIT OF SCOTT L. ENGLE**

File No. CT-95/2  
 No. du dossier  
Bank v Bank of Montreal et al  
 et/  
 Exhibit No. [REDACTED]  
 No. de la pièce  
 Filed on Apr 17/96; 9h39  
 Déposée le  
 Registrar Shagan  
 Greffier

## **AFFIDAVIT**

I, SCOTT LAWRENCE ENGLE, of Dallas, Texas, U.S.A., **MAKE OATH AND STATE AS FOLLOWS:**

1. I have been retained by the Director of Investigation and Research to provide expert industry evidence in respect to the Application filed by the Director with the Competition Tribunal with respect to Interac.

2. For the purpose of my Affidavit, I adopt the definitions of terms in paragraph 1 of the Draft Consent Order ("DCO"). When referenced in my Affidavit, these defined terms are capitalized.

### **I. EXPERIENCE AND QUALIFICATIONS**

3. I am a management consultant based in Dallas, Texas. My consulting practice is largely focused on business strategy development and implementation. My clients compete in a variety of industries, including banking, electronic funds transfer, healthcare, telecommunications, chemicals, advertising, and communication services. In addition to managing my consulting practice, I am a Ph.D. candidate in Organization Theory and Policy at the University of North Texas, where I currently teach courses in business policy and organizational behavior. I received an MBA from Harvard University in 1978 and also hold a B.A. from Louisiana Tech University.

4. I have extensive experience in the electronic funds transfer ("EFT") business. After four years at BFGoodrich, where I was the assistant treasurer in charge of corporate finance, international treasury operations, and the pension fund, I joined First Texas Savings in Dallas in 1983, where I founded an EFT subsidiary for First Texas. The subsidiary operated as Transfirst Corporation. Within four years of its inception, we had grown Transfirst to a U.S.\$35 million on-line transaction processing company, providing

a full range of EFT services to clients operating in several industries. For our parent company, we operated over 1,000 automated banking machines ("ABMs"), one of the largest off-premises ABM networks in the U.S. We also provided a full-range of EFT services to over 100 other financial institutions, including card and ABM services. We were also an acquirer in the merchant processing industry, providing debit and credit services to over 3,000 retailers. Finally, Transfirst was a pioneer in the delivery of government benefits, such as Aid to Families with Dependent Children cash benefits, using EFT technology.

5. As President and Chief Executive Officer of Transfirst, I had wide-ranging EFT responsibilities. For more than two years, I served on the board of directors of Financial Interchange, Inc., the operator of the Pulse network, and one of the first and largest regional shared debit networks in the U.S. I spoke at numerous EFT conferences, such as the annual meetings of the EFT Association and the Consumer Bankers Association. In addition, I was responsible for the conduct of a major EFT antitrust action by First Texas against the Pulse network in 1988. The case was settled in binding arbitration and resulted in the right of Pulse ABM owners to place a surcharge on ABM transactions. Transfirst was sold in 1988, at which time I left and established an EFT consulting practice.

6. Though I have since spent several years as Chief Executive Officer of a national supplemental nurse staffing company, I have been active in the EFT industry since leaving Transfirst. In addition to providing EFT consulting services to various businesses, I was retained as an expert by Valley Bank of Nevada in its antitrust suit against the PLUS system concerning the ability to surcharge on ABM transactions. (Valley Bank of Nevada v. Plus System, Inc. and Visa USA, Inc., 749 F.Supp.223 (D.Nev.1989), affirmed, 914 F.2d 1186 (9th Cir.1990).) In addition, for approximately five years, I have provided expert

services on a variety of matters to the EFT working group of the antitrust task force of States Attorneys General in the U.S.

7. A copy of my resume is attached as Exhibit "A" to this affidavit.

## **II. SCOPE OF THIS AFFIDAVIT**

8. I have been asked by the Director to express my expert views on the business of acquiring debit EFT transactions, the relationship of the debit acquiring business to the debit card issuing business, and the viability of a commercial entity which would choose to be an acquirer, but not an issuer. Thus, there are three principal sections of this Affidavit:

- (a) an analysis of the debit acquiring business,
- (b) an analysis of why debit acquiring and debit card issuing are separate businesses without significant joint economies, and
- (c) an analysis showing why an EFT transaction processing firm does not have to be an issuer to be successful.

## **III. THE ACQUIRING BUSINESS**

9. EFT technology, in its many forms, is used in numerous industries. EFT systems are used to (1) operate ABMs and other self-service terminals, (2) transfer large amounts of money between commercial banks and their commercial customers, (3) authorize credit transactions for merchants, (4) provide home banking services, (5)

automate the delivery of government benefits, (6) sell airline and entertainment tickets, and (7) provide bill payment services, as well as a host of other applications.

10. The current matter is focused on one of the most common uses of EFT systems, namely, using shared EFT systems and facilities to deliver consumer-initiated electronic financial services. Financial institutions and other firms have not always shared these systems. In the U.S., the first ABMs were introduced in the late 1960's and for about 15 years consumers were limited to using the ABMs operated by their own bank. The bank would acquire the consumer's request for cash, a balance inquiry, a transfer, or other transaction at its ABM and authorize the transaction (or not) after checking its own account records.

11. With the growth of ABM usage in the U.S., banks came to realize that it was uneconomic for them to build enormous networks of "private" ABMs when all that consumers really wanted was convenient locations -- at that time, it was analogous to the early days of railroads, when each railroad laid its own track. Thus, in the early 1980's there was explosive growth in the sharing of EFT systems and ABMs, enabling the customer of Bank A to use an ABM owned by Bank B. Bank B would acquire the customer's request and route it to Bank A for authorization, after which the two banks would settle the transaction. Bank A would reimburse Bank B for the cash it gave to Bank A's customer. Since it was not realistic for each bank to build and maintain a link to every other bank, the banks created organizational structures to facilitate sharing. Though there are operational differences in how these shared networks operate, their business purpose is the same: to facilitate the sharing of EFT systems and equipment and to build a brand name for the shared service.

12. Just as it had become increasingly clear to banks in the U.S. that sharing ABMs made economic sense, as the shared networks grew, the distinctions between

acquiring transactions for the network and issuing cards which consumers used to access their accounts became clear. Many smaller financial institutions ("FI's") chose not to acquire any transactions; they wanted to be card issuers only and thereby avoid the investment in operating ABMs. In essence, these firms "buy" acquiring capacity from network members. Conversely, most networks in the United States attracted the entry of non-FIs who wanted to be only acquirers of transactions, by operating ABMs but not issuing any cards. EDS, ACS, and Publix are examples of non-FIs with large ABM deployment programs. In essence, they are in the business of "selling" acquiring capacity to network members. Even among the FIs who both issued cards and operated ABMs, this dichotomy between "buying" and "selling" acquiring capacity became important. Reflecting different business strategies, some FIs became large "net sellers" of transactions to the network, operating much larger numbers of ABMs than were needed to support their own cardbase; others became large "net buyers" of transactions, operating small ABM networks which could not satisfy the transaction needs of their own cardbase. Because net sellers and net buyers have different business interests in the network, these net positions sometimes prove to be a source of turmoil in a network. For example, the 1988 antitrust dispute between First Texas and the Pulse network was largely a struggle between a large "net seller" of ABM transactions, First Texas, and other FIs in Pulse, most of whom were "net buyers" of ABM transactions from Pulse.

13. The fact that acquiring debit transactions is a separate business from that of being a card issuer became even more apparent with the advent of electronic funds transfer at point of sale ("EFTPOS") for now a new player was present at the table: the merchant. Some U.S. retailers had experience in debit EFT, having been ABM deployers, and having acquired substantial numbers of transactions for the shared debit networks. For example, as early as 1988, Publix Supermarkets in Florida was the 10th largest ABM owner in the U.S. More recently, Winn-Dixie, a large grocer in the southern U.S., installed more than 900 ABMs in its own stores.

14. In contrast to the credit card business, where merchants relied on banks or third-party processors to acquire transactions and submit them to Visa and MasterCard, in EFTPOS many large merchants established their own direct connections to the shared networks. Thus, to use the terminology of roles in Appendix "D" of Kenneth Morrison's Affidavit dated March 2, 1996, the merchant was the Acceptor (the terminal operator), the Acquirer, and the Direct Connector. In 1994, 47% of all EFTPOS terminals in the U.S. were operated by retailers with direct connections to shared debit networks. For example, Mobil Oil operated nearly 30,000 EFTPOS terminals in 1994 and had direct connections to 19 major debit networks<sup>1</sup>.

15. Though FIs play a major role in acquiring shared debit transactions from ABMs and EFTPOS transactions from merchants, there are large non-FIs in the U.S. which operate successful EFT businesses and are acquirers-only in the shared networks. The following are brief profiles of a few such firms:

- (a) EDS, Electronic Data Systems, is the one of the largest third-party EFT processors in the U.S. EDS is the second largest ABM owner in the U.S., owning more than 5,000 ABMs, having placed more than 2,500 in 1994 alone. EDS is directly connected to nearly all the shared networks in the U.S. and provides a full range of EFT services to hundreds of financial institutions and thousands of merchants.
- (b) ACS, Affiliated Computer Services, has become the third-largest ABM owner in the U.S., owning more than 3,500 ABMs. Though not active in EFTPOS, ACS leverages its investment in EFT technology by operating the EFT

---

<sup>1</sup> 1994 Report on the POS Network Processing Market, prepared by Carmody and Bloom, Inc.

programs for hundreds of financial institutions and is also active in electronic benefits transfer ("EBT").

- (c) As noted above, merchants are some of the largest EFTPOS acquirers in the U.S. The five largest non-merchant EFTPOS acquirers in the U.S. are non-FIs: BUYPASS, Deluxe Data, Concord, NDC, and NaBANCO. All these firms are direct connected to the major shared debit networks. Though not an ABM owner, Deluxe Data also operates the switches for a number of regional networks and sells switching software.
- (d) J.C. Penney is one of the largest retailers in the U.S. In addition to acting as its own acquirer, J.C. Penney established an EFT processing subsidiary which provides acquiring services to merchants nationwide.

16. In summary, U.S. experience has clearly demonstrated that, in an open and competitive market, firms which are acquirers-only can be very successful. As the technologies, products, and markets have matured, a clear distinction has developed between the issuing and the acquiring businesses -- in both ABMs and EFTPOS, which is elaborated more fully below. Section IV will elaborate more fully on these distinctions and their consequences.



#### **IV. ACQUIRING AS A SEPARATE BUSINESS**

17. Acquiring and card issuing are separate businesses and do not share significant joint economies. A useful approach to distinguishing between businesses is to (1) assess the key sources of competitive advantage, namely the key success drivers, for its products, and (2) compare the processes used to produce the products.

##### **Sources of Competitive Advantage**

18. In a debit network, the acquirers are responsible for providing customer- and merchant-activated terminals, collecting transactions submitted from those terminals, routing the transactions to card issuers via switches, and completing the transaction with the consumer or merchant. In addition to other on-line transaction processing services which acquirers might offer, they depend on their ability to deliver a range of terminal-based services for which consumers and merchants are willing to pay a reasonable price. Key success factors for acquirers include:

- (a) developing and marketing a variety of consumer services which can be delivered by consumer-activated terminals, such as ABMs,
- (b) developing and marketing services to merchants, assessing and managing merchant risk, and creating the necessary settlement mechanisms,
- (c) installing and operating a large telecommunications network composed of both dial-up and dedicated terminals, and
- (d) operating fault-tolerant on-line transaction processing systems.

19. Card issuers, on the other hand, are FIs in the business of providing demand accounts to consumers. The debit card is a means to access that account. The product offered by the FI is the account, not the card; the card is a product feature, albeit an increasingly important one. Most FIs do not charge for the card, nor do they charge for transactions performed at their own ABMs; the price of the card is bundled into the pricing of the account. Because Issuers pay interchange fees to Acquirers for ABM transactions “purchased” by the Issuer, most Issuers charge consumers for transactions performed at shared ABMs, though, at least in the U.S., some do not. The key success drivers for Issuers include:

- (a) developing and marketing demand account products with a full range of attractive features and benefits, and
- (b) operating a technology infrastructure to support the accounts, including providing statements and processing checks.

20. The differences in the key success drivers of acquiring and issuing can be summarized as the difference between operating a transaction-oriented business and operating a relationship-oriented business. Acquirers’ success depends on their ability to generate very large numbers of transactions from a very large number of users; their focus is providing good service for each transaction, but there is little in the way of a relationship with the customer. For example, although EDS owns over 5,000 ABMs in the United States, it is not really in the business of building a relationship with each ABM user. Issuers on the other hand, as account holders, are in the relationship-building business. FIs want to sell consumers a wide-variety of services and build an on-going, ever-growing loyalty. Banks in the U.S. are quite clear about the fact that they want to have a “relationship” with their customers, and the same is true in Canada.

21. It is important to appreciate the fact that running a transaction-based business requires a very different set of skills and a very different managerial mind set or dominant logic, from those required to operate a relationship focused business. Acquirers provide services which are inputs to firms in the relationship business. These differences are a major reason why non-FIs have been so successful in acquiring-related businesses in the U.S. and there seems to be good reason to believe that the same will be true in Canada.

### **Production Processes**

22. Issuing and acquiring services are not produced in the same way. Although both businesses rely on data processing, the technologies used are actually quite dissimilar:

- (a) Issuers use large account management software systems which typically run in a batch environment on traditional mainframe hardware. Acquirers run on-line transaction processing software, usually on special fault-tolerant hardware.
- (b) The vendors of software for large account systems used by Issuers are not the same firms as the leading suppliers of the EFT systems used by Acquirers.
- (c) Even when an Issuer is also in the Acquiring business, the systems used to operate the two businesses are kept separate. For example, Interac Issuers were running account systems long before they introduced EFT products. Indeed, like all networks, the architecture of the Interac network presupposes separation between issuing and acquiring activities.

23. Certainly, in a shared debit network the Issuers and Acquirers are offering complementary products; the consumer or merchant uses the product of the Issuer, account access, jointly with the product of the Acquirer, transaction collection and transmission. However, just because products are complementary does not imply that they share significant joint economies or symmetries. Motor oil and automobiles are complementary products in that neither is of any use without the other. Nonetheless, few people would contend that producers of motor oil and car makers are in the same business in any meaningful way or that production of both products would lead to significant joint economies. Issuers and Acquirers cooperate with one another to the extent needed to complete a shared transaction, but they compete in different businesses. The tremendous growth and success of non-FI acquirers in the U.S. has demonstrated that being an issuer offers few advantages in the acquiring industry.

24. In summary, using standard analytical approaches -- sources of competitive advantage and similarity of production processes -- I conclude that the debit acquiring and debit issuing businesses are strategically distinct, even though both businesses participate in the market for shared consumer-initiated electronic services. Further, it is my opinion that any potential joint economies between acquiring and issuing are offset by the different skills, capabilities, technologies, and managerial mind set required to operate the businesses successfully.

## **V. ACQUIRERS-ONLY CAN BE SUCCESSFUL**

25. The success of EFT processors is a function of their ability to generate large volumes of transactions and related services. Thus, processors such as EDS, Deluxe Data, Affiliated Computer Services, EPS, and others typically leverage their on-line transaction processing capabilities by providing a variety of services to consumers,

merchants and financial institutions. Third-party processors provide an increasingly broad range of services to merchants, based on the data capture capabilities of the EFTPOS terminals which they operate. For example, processors:

- (a) operate card programs for merchants, in which the acquirer compiles information on consumer purchasing patterns;
- (b) use sales data captured at the terminal to provide inventory management services;
- (c) operate "time card" systems, in which store employees use the EFTPOS terminal to log in and out of their shift;
- (d) collect store sales data and funds concentration information for management; and
- (e) acquire credit and debit transactions for merchants.

26. Transfirst, the EFT processor which I ran and was later acquired by Affiliated Computer Services, provided a wide array of EFT services to consumers, financial institutions, merchants, and government agencies. In all cases, Transfirst's products leveraged its core competence in EFT processing and generated important economies of scale and scope. Further, neither Transfirst nor any of the large "third-party" processors in the U.S. are card-issuers. They are on-line, transaction-oriented data processing companies. As indicated in paragraphs 17-24 of this Affidavit, card-issuing is a dramatically different business.

27. The DCO will make Canada a much more attractive market for existing and prospective third-party processors. Under the terms of the DCO, such firms will be able to connect directly to the Interac network, enabling them to avoid the expense of buying access from one of the Charter Members. In addition, the investment required to direct connect is minimized by the fact that the IMN software will be provided at no charge to new Direct Connectors. Acquirers will also be able to own ABMs, cost-effectively operate them for others, and also acquire EFTPOS transactions. I will briefly review some of the business opportunities in ABMs and EFTPOS.

28. Though Canada currently has a large number of ABMs per capita, there are good reasons to expect that business opportunities will exist for new ABM deployers for the following reasons:

- (a) Since 1989, when ABM surcharges were first introduced in the Pulse network, these fees have been shown to stimulate ABM deployment. Although long-resisted by some U.S. banks, surcharges are becoming increasingly common in the U.S., as most recently demonstrated by the decision of Visa's Plus Network to drop its surcharge prohibition. Not all locations are equal and surcharges enable low-volume, high-value locations to succeed. They introduce new market forces into decisions about ABM deployment. Although I have not done a survey of Canadian ABM locations, I would expect that the ability to surcharge would make many new locations economic. The point is that the market will play a much larger role. If opportunities exist, the DCO enables new competitors to go after those locations.
- (b) The types of ABM transactions available on the Interac network have been limited to SCD. Although no new ABM services are mandated by the DCO,

changes in the governance of the Interac Association increase the likelihood that new ABM services will be approved. More importantly, ABMs are really consumer-activated electronic terminals and are not limited to providing banking services. For example, Transfirst sold Southwest Airlines tickets through its ABMs, offered bill payment services, and ran promotions for local radio stations. It is important to note that Transfirst processed these transactions through the network as EFTPOS transactions. Nothing prevents an owner of an ABM from doing the same thing through Interac today. The ABM owner could offer non-banking services through the terminal and submit an EFTPOS transaction to Interac. Importantly, the DCO will allow a service provider to collect a surcharge as payment for providing the service. For example, a terminal owner providing bill payment services through an ABM could collect a fee from the consumer. Nationwide Money Services, founded in 1993, follows an ABM strategy similar to that used by Transfirst. By the end of 1996, it will be operating approximately 2,500 ABMs and cash dispensers (a low-cost single-purpose ABM) in off-premises locations, dispensing pre-paid phone cards, stamps, tickets, and coupons from machines, in addition to the typical financial services, such as cash dispensing, balance inquiries, and transfers. There is simply every reason to believe that an aggressive, imaginative ABM deployer will find and create opportunities in Canada.

29. Despite the fact that it was introduced late to Canada, EFTPOS has grown dramatically, gaining merchant and consumer acceptance very quickly. Although there are indications that the large banks have competed aggressively as acquirers for the merchants' business, thereby minimizing the possibility of unmet customer needs, the fact that one of the Intervenor is representing the interests of retailers would indicate that significant demand for improved service levels or more cost-effective services remains.

By allowing non-FIs to connect directly to Interac and act as an Acquirer only, without the necessity of issuing cards and maintaining accounts, the DCO enables new or existing EFT processors to compete for the merchants' debit acquiring business. Based on the experience in the U.S., a likely result is that one or more large retailers, or a consortium of retailers, would build their own processing capabilities and submit their transactions to Interac directly. Further, the very success of Interac's EFTPOS product reduces the potential hurdles faced by a new competitor. One of the biggest hurdles faced by the early EFTPOS acquirers in the U.S. was the investment needed to educate consumers about the service and convince retailers that they needed to accept debit cards. Based on information I have received about the Canadian market, much of that education process has already been completed.

30. In addition to opportunities in ABMs and EFTPOS, EFT processors entering the market as a result of the DCO will likely offer services such as outsourced on-line processing for FIs, card services, in-house programs for merchants, and on-line programs for government agencies. One former associate of mine has built a successful business in the United States out of running hunting and fishing license programs for several states, using on-line EFT technologies. Another example would be operating retailer card programs using co-branded debit cards. Loblaw's could contract with an FI to issue a single card which would function both as an Interac card to access the customer's demand account at the FI and to collect relationship-marketing data on the customer's purchasing patterns at Loblaw's. The point is not the value of any particular service, but that substantial economies of scope exist with respect to acquiring-related services. It is unlikely that any firm would operate solely as an Interac Acquirer. Interac acquiring activities would more likely be one part of an Acquirer's product portfolio. Further, being an Issuer is not a necessary condition for being a successful Acquirer. As I noted earlier in this Affidavit, many of the largest acquirers in the U.S. are not FIs; they issue no cards and maintain no accounts.



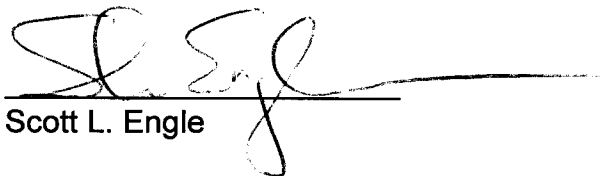
**VI. CONCLUSIONS**

31. Although the EFT business is complex, my Affidavit demonstrates that:

- (a) The card-issuing business and the acquiring business are separate and distinct, without significant joint economies. In plainer language, the fact that a firm is in the card-issuing business (i.e., an FI) has no significant bearing on whether it enters the acquiring business, or vice versa. Thus, the DCO achieves a substantial pro-competitive benefit by opening up Interac membership to firms wanting to participate as an Acquirer-only.
- (b) It is commercially viable for a firm to participate as an Acquirer-only for ABMs and EFTPOS. Using Interac transaction volume as a base on which to grow a processing business, an EFT processor could offer a wide variety of services. Because the acquiring business has substantial economies of scope, this is especially true for existing EFT processors for whom the Interac transaction volumes would be incremental, operating on systems already in place.

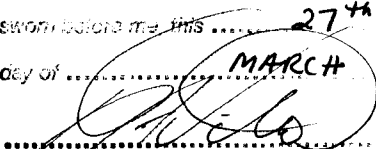
This affidavit is sworn pursuant to Rule 47 of the Competition Tribunal Rules.

SWORN before me at )  
 the City of Toronto in )  
 the Municipality of )  
 Metropolitan Toronto, )  
 this 21<sup>st</sup> day of March, 1996 )  
 \_\_\_\_\_ )  
 A Commissioner, etc. )

  
 \_\_\_\_\_  
 Scott L. Engle

**EXHIBIT "A"**

**Scott L. Engle**  
4908 Junius Street  
Dallas, TX 75214  
(214) 821-5666

This is Exhibit "A" referred to in the  
affidavit of **Scott L. Engle**  
sworn before me this **27<sup>th</sup>**  
day of **MARCH** 19**96**  
  
A COMMISSIONER FOR TAKING AFFIDAVITS

**BUSINESS EXPERIENCE**

1992 - Present      **Engle Associates, Dallas, Texas**

Established a general management consulting practice. Clients have included a promotional marketing agency, a chemical blender/distributor, an agency of the Canadian government, a training and documentation company, a large hospital, a major utility, and a variety of start-ups.

1989 - 1992      **Flying Nurses, Inc., Dallas, Texas**

One of the U.S.' largest travelling nurse staffing companies serving over 100 hospitals in 30 states.

Chief Executive Officer/Director

Hired by the Board of Directors to develop and direct an aggressive, orderly growth plan for the company and to accomplish a profitable exit for the investors. Company was sold to a NYSE acquirer in June, 1992.

1988 - 1989      **Engle Associates, Dallas, Texas**  
**J.D. Carreker & Associates, Dallas, Texas**

Founded a national EFT consulting practice after the sale of TransFirst/MoneyMaker to ACS. Developed several substantial clients and joined JDCA in early 1989. Left JDCA to join Flying Nurses.

1983 - 1988      **First Texas Financial Corporation, Dallas, Texas**

Largest S&L in Texas with \$9 billion in assets and 120 offices.

***TransFirst Corporation/MoneyMaker EFT Services***

A wholly-owned subsidiary of First Texas. A full-service on-line transaction processing company. 180 employees. Company was sold in 1988.

President and Chief Executive Officer

Founded and built this EFT services company. Created one of the largest EFT companies in the U.S. in less than four years.

Grew sales from start-up in late 1983 to over \$25 million per year in 1988.

Built and operated the largest off-premises ATM network in the U.S. Operated over 1000 ATM's, providing complete EFT services to more than 90 banks.

Developed a credit card processing system, serving more than 3000 merchants by 1988.

Pioneered the delivery of government benefits via EFT technology and successfully piloted and operated several state and local programs.

Successfully arbitrated a major dispute with an EFT network, resulting in \$1.5 million in savings.

***First Texas Savings***

Senior Vice President, Director of Corporate Projects

Reported to the President. Responsible for a variety of projects, including the development of an off-premises ATM project with Southland Corporation, which led to the founding of MoneyMaker EFT Services in late 1983.

1978 - 1982

**The BFGoodrich Company, Akron, Ohio**

Assistant Treasurer, 1981-82

Manager, Finance, 1980

Manager, Corporate Finance, 1979

Financial Analyst, 1978

Joined the Treasury Division in 1978 as a financial analyst. Promoted to positions of increasing responsibility, including Assistant Treasurer, responsible for the company's long-term financing, international treasury activities, and pension fund. Major activities as Assistant Treasurer included a \$50 million SFR currency swap with the World Bank, a \$380 million tax benefit sale, a \$32 million adjustable rate private placement, \$55 million of tax exempt bonds, and the complete restructuring of a

\$160 million project financing. Left BFGoodrich to join First Texas.

### **MILITARY EXPERIENCE**

1972 - 1976      **United States Air Force**, Williams AFB, Mesa, Arizona

Captain, Instructor Pilot and Squadron Scheduler

Jet instructor pilot in undergraduate pilot training. Also selected for additional duty as Squadron Scheduler, supervising 12-person dispatch section and 6 flight schedulers.

### **EDUCATION**

1993 - Present      **The University of North Texas**, Denton, Texas

Ph.D. candidate in the management department of the College of Business Administration.

1976 - 1978      **Harvard University**, Cambridge, Massachusetts

Awarded MBA in June, 1978. General management curriculum with a concentration in finance. Tutored marketing and finance. First-year honors (top 15%).

1968 - 1972      **Louisiana Tech University**, Ruston, Louisiana

Awarded BA in history. President's Fellow for four years, with scholarship. ODK, national honorary leadership fraternity. Air Force ROTC.

### **ACADEMIC EXPERIENCE**

1994 - present      The University of North Texas, Denton, Texas

Teaching fellow. Have taught Principles of Management, Organizational Behavior, and Business Policy at the undergraduate level.

### **PUBLICATIONS AND CREATIVE ACTIVITIES**

Publications:

Engle, S.L. 1996. The role of trust in total quality management. Proceedings

of the Southwest Academy of Management.

Engle, S.L. 1995. The role of trust in dynamic network organizations. Proceedings of the Southwest Academy of Management.

Engle, S.L. 1986. Retooling the Delivery System. Bankers Magazine, 169 (3): 28-31

Papers in Progress:

Johnson, JL & Engle, S.L. Informal organizations and social networks: Insights from the Hawthorne program and Chester Barnard. In revision.

Caudill, H.L., & Engle, S.L. Performance: An untidy construct. In revision.

Engle, S.L. Tapping deep currents: Organizational trust and sustainable competitive advantage. In revision.

Engle, S.L. Weaving webs of strong ties: The relative importance of individual and relational variables in predicting moral trust. In revision.

Engle, S.L. Linking islands of automation: The effects of information technology connectivity on social networks. (Data collected/in preparation).

Engle, S.L. An examination of the effect of network centrality and structure on organization commitment. (Data collected/in preparation)

Conference presentations:

Engle, S.L. 1996. The role of trust in total quality management. Paper to be presented at the Southwest Academy of Management Meeting, San Antonio, Texas.

Engle, S.L. 1995. The role of trust in dynamic network organizations. Paper presented at the Southwest Academy of Management Meeting, Houston, Texas.

Engle, S.L. 1994. Social networks and Barnard's informal organizations. Paper presented at the Academy of Management National Meeting, Dallas, Texas.

**PROFESSIONAL AFFILIATIONS**

Member:

Academy of Management  
Institute for Operations Research and the Management Sciences  
International Network for Social Network Analysis  
Southern Management Association  
Southwest Academy of Management  
Strategic Management Society