Disruptive Innovation – Global Opportunities for Technology – Driven Exchanges

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The Trinity

Innovation, Globalization and Technology are the Holy Trinity of the 21st century that is driving the World economies. To survive in the current century of the Third Millennium, no nation can really afford to ignore any one entity of this Trinity. To be sure, the three are not mutually exclusive, but are closely integrated with each other so much so that together they form The Triumvirate of the present era.

Had it not been for technology, globalization would have remained a distant dream. In fact, no one would have even thought of it. Technology developments in transport and telecommunications, the latter especially, has brought the world closer. Geographical distances have been cut down for travel, and the speed of communication, interpersonal as well as mass media, has probably surpassed the velocity of light. Technology implies innovation too. The use of technology has ushered in innovation in every sphere of human activity, work as well as leisure.

The Trinity has been transforming speedily the global economies. With its entry, *the old order changeth*, yielding way to the new one. Nowhere is such transformation so discernible as in the market places or exchanges, in which the traditional trading practices and systems are being replaced swiftly by the technology driven ones that are improving astonishingly the marketing and pricing efficiency.

Open Outcry

For too long, exchanges, both for physical and derivative trading in securities, commodities and currencies, have remained static with the conventional systems suitable to the old conservative capitalist system in vogue all along. Markets were largely national, if not actually local or regional. True, security and commodity exchanges are in existence for more than century and a half in most of the developed countries like the USA and the UK, as also in developed countries like India. But these catered mostly to the locals. The outstation traders doing business on them were few and far between. The overseas players were, by and large, conspicuous by their absence.

The trading system at these exchanges for a long time, and in quite a few of them even presently, has been floor-based through public open outcry. Under this system, floor brokers and floor traders gather on the trading floors (or 'rings' as they are called in India) of these exchanges, and transactions in commodities and securities are entered into through open outcry. The open outcry system essentially involves open auction where both the buyers and sellers on the trading floors make their bids and offers through hand signs as well as by yelling loudly for all to hear and notice. In the system, all those who trade on the floor of the exchanges are auctioneers and bidders at different times, and often simultaneously.

The floor brokers and floor traders are connected to their main broking and trading offices through telephones or leased lines. The orders for buy and sell received by their main offices are passed on to the floor operators, who, in turn, make the necessary bids or offers, as the case may be, on the trading floors of the exchanges. When the bid of one trader is matched by an offer of another in terms of quantity and price, the transaction is struck. The floor operators immediately exchange between themselves the requisite transaction slips, and report the deal to the exchange supervisor, who then arranges to display the price on the exchange's price ticker board for all the floor participants to view.

As more and more securities, commodities and currencies, and their diverse derivative and option contracts began to enter the trading lists of the exchanges; separate spaces were allotted on the trading floor for each commodity, security and currency, and thus emerged the trading pits on the trading floors.

Debilities of Open Outcry

While the trading systems of these exchanges served well the limited needs of the market functionalities in the 19th and 20th centuries, these are altogether unsuitable to meet the growing challenges thrown by globalization in the New Millennium. The debilities of the traditional open outcry mode of trading far outweigh its alleged benefits.

For one thing, the number and types of securities, commodities and currencies, and their wide ranging derivatives, that are being traded on the exchanges have increased manifold in recent years and the trading floor space is proving desperately inadequate. As a result, the exchanges are perforce to restrict entry into their trading pits. Membership of the exchanges is severely controlled That has affected the competitive character of the markets, however. After all, a perfect market, in economic parlance, presupposes free entry and exit for all.. The need for such liberal entry/exit option is all the more in the contemporary growing world economies, where new business enterprises are seeing the light every day

Secondly, the exchanges trading through the open outcry system virtually operate literally like private social clubs, catering mostly to the interests of their members; and, worst still, the hardened groups of their floor brokers and floor traders, who call most of the shots from the trading pits. Not surprisingly, these traditional exchanges function as monopolies of the Chosen Few, and are far from 'perfect'.

Thirdly, the secrecy of buyers and sellers is altogether lost on the trading floors and, as a consequence, most traders shy away from such exchanges, upsetting further unfavorably their volumes and market efficiency in both price discovery and price risk management.

Fourthly, trading in the open outcry system is necessarily restricted to a few day time hours, for the inevitable manpower constraints and the requisite back office activities that need to be completed after the close of trading and its reopening on the next day. There are also physical limits to trading by hand signs and shouts in the pits by the floor traders and floor brokers. No man can ceaselessly function in a trading pit for more than a few hours, without getting exhausted physically and mentally.

Most exchanges therefore confine trading to at best 4 or 5 hours a day, to the exclusion of Saturdays and Sundays. The business in the physical markets for commodities, currencies and securities does not stop, however. With the communication network in place all around the Earth, business goes on round the clock. Factors influencing the demand and supply conditions in physical cash and forward markets also are never static, but change night and day, affecting all the time the commodity and security prices and the currency values. For businesses, 24x7 trading is therefore a must in the present day globalised world. But it is indeed too much for the open outcry to meet this absolute need.

Of late, commodities and their derivatives have also emerged as an asset class attracting both retail and institutional investors. For the physical commodity market functionaries, the investment demand (as distinguished from the consumption demand) for commodities was prevailing all along. Commodity derivatives are most cost effective in meeting such demand, since they absolve the merchants and stockists from incurring onerous warehousing costs. Commodities also serve as hedge against inflation. That has paved the way for retail and institutional investment in them and their derivatives.

Securities and currencies, of course, were always viewed as valuable assets attracting investment attention from individuals as well as institutions. The new institutional investors like mutual funds and hedge funds have surfaced rapidly in recent years, seeking better investment opportunities in diverse commodity and financial assets. The pension funds are also seeking investment opportunities in securities and commodities and their derivatives. These new investors are wary of the clubby and claustrophobic atmosphere prevailing in the trading pits under the open outcry trading floor system of the traditional exchanges.

True, it is believed that since market information flows speedily on the trading floors of the exchanges, price discovery is perhaps hastened, and conceivably more efficient too, through open outcry. That may be so for a few commodities, in which the physical markets are presently shrouded in secrecy. But with e-commerce in offing, even this probable advantage will be soon lost.. Moreover, with the rapid spread of information technology, exchanges can gather and disseminate market information far more quickly than the brokers and traders on the trading floors of the traditional exchanges.

On-line Trading

It is for these diverse reasons that exchanges have steadfastly shifted to the new technology of electronic on-line trading through the satellite channels.. The impersonal electronic on-line trading *modus operandi*, in which the central computer matches the bids and offers automatically, instantaneously and anonymously, is not only more transparent, but also a superior and much more efficient form of trading than the age old open outcry system.

The online routine order matching system also maintains the utmost secrecy and confidentiality of buyers and sellers and their trading volumes at different prices. The system enables traders as well as investors to operate easily from their offices and homes, and even while traveling through laptops and mobiles. As a result, the technology driven exchanges, while witnessing huge trading volumes, assist in efficient price discovery and low cost risk management. High capital costs notwithstanding, consequent upon the phenomenal trading turnover in them (which would have been otherwise unthinkable in the traditional floor-based trading system), and the resultant economies of scale, the modern on-line exchanges have reduced radically the transaction costs for both for the market operators as well as for the exchanges, ensuing in a virtuous circle of liquidity and improved price discovery..

What is more, with the introduction of new technology trading, the trading systems at the exchanges the world over have almost become uniform, facilitating trading instantaneously at any exchange from any part of the world. Not surprisingly, the exchanges are no longer localized as in the not so distant past, but have also veritably become globalized, enticing market players from across the borders, and even from distant lands. They are facilitating easy flow of capital and goods, and are providing global opportunities for investment as well as risk management. The worlds over markets are getting more and more integrated, helping to bring about relative price stabilization. Consequently, they are facilitating the growth of world trade and promoting investment opportunities, encouraging, in the process, the all round development and improvement in employment, incomes and living standards.

Technology Penetration

The technology is not restrained to the trading system alone. It has now been extended by the modern exchanges to all their operations – clearing, settlement, delivery mechanism, market surveillance and data dissemination. It has penetrated the front and back offices of the exchanges and the firms trading in them. As most of the business firms are already technology equipped, with technology savvy employees, the new technology driven exchanges are preferred by them to the traditional exchanges with the outdated trading pits and open outcry system.

Small wonder, the stock and currency exchanges all over the world have gone in for the modern on-line trading technology, the sole exception being the New York Stock Exchange, which has perhaps remained the last bastion of the old conservative financial community, and may even be preserves as a relic of history of exchange trading. In commodities, the New York Mercantile Exchange (NYMEX), the Chicago Board of Trade (CBOT) and the Chicago Mercantile Exchange (CME), which have still stuck to their traditional pit based trading, have at long lost thrown in the towel and introduced the side-by-side electronic on-line trading, which extends beyond the normal trading hours.

What has given a further boost to the technology driven trading in the U. S. exchanges is that CBOT and CME have recently gone public, infusing huge capital, from non-members, in their diverse development projects and activities. NYMEX has also announced its intention to come out with an IPO soon. As the member-based ownership exchanges convert into public exchanges with shareholder capital, they can no longer afford to remain in the traditional shells or pits. They tend to come out and become more market friendly to draw more users on their technology driven trading platforms.

The Future

The future of the world economy clearly now rests with the technology driven exchanges. The trading and commercial practices are increasingly becoming technology oriented. With the spread of technology, the global exchanges are spreading their wings across the continents through tie-ups and collaborations, both at the technical and financial levels. If Indian exchanges were to survive this global competition, the authorities must speed up the reforms in derivative markets for commodities, and open up the Indian economy with free Rupee convertibility on capital account to develop currency derivative trading at the earliest. That way the technology driven national exchanges can seize the opportunities to go global, attracting overseas institutional and individual investors with their comparative low cost advantage; lest, the international exchanges from the developed countries set their shops in India, driving our nascent national exchanges to the walls. Surely, the country should not miss the bus now.