

Evaluation of IDRC Project:  
Asia-Canada Consortium on Enterprise Systems (ACCESS)

31 March 1997

by  
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This report examines the benefits of building on the relationships already developed between IDRC (the Centre) and Eutech Cybernetics Pte. Ltd., of Singapore and furthering this partnership into the next wave of the development.

The observations by the writer are based on reading the extensive documentation provided by IDRC, as well as with interviews and conversations with Arun Abraham, Senior Regional Program Officer of IDRC; Dr. Hari Gunasingham, Managing Director, Eutech Cybernetics Pte. Ltd., Mr. Bandu Welwalaarachchi, Head Software Engineering, Eutech Cybernetics; Mr. Bill Hutchison, Group Managing Director, Quorum International Pte. Ltd., Mr. Shyam Gopal, Regional Manager, BFL Software Ltd., Ms. Maggie Ng, Senior Officer, International Business Development Division, Economic Development Board of Singapore; and Mr. Saw Ken Wye, Director Industry Technology and Development, National Computer Board of Singapore.

In exploring these new perspectives, the report gives examples of the benefits that will accrue to the participants and the way in which this partnership will provide prosperity, economic growth and productivity to the Consortium members and its beneficiaries. It will also underscore the basic premise of the Centre: the establishment of significant Canadian partners, who in concert with a local emerging technology-rich company, will combine and transfer their respective talents and technologies to third party small and medium enterprises in the region.

The Centre stands to benefit from high visibility and the visionary role it has accepted in being both a funder and broker of the proposed Consortium.

In reviewing comments from the executives interviewed, it becomes clear that a solution is needed to convince small and medium sized companies to adopt environmentally-friendly technologies and processes. In the absence of regulatory enforcement or denigration from competitors and the public-at-large, a new approach is required. The product offered must be economically attractive, packaged in such a fashion as not to discourage its purchase and/or use, and of course, be oriented to prevailing market conditions.

Upon examining the market in this region, there does not appear to be established players offering the breadth and scope of the proposed Consortium and its offerings. Considerable opportunity and scope therefore exists for this union of Canadian and Asian companies to gain and maintain a significant leadership role in this new era of the information communications technologies (ICT) industry - that of Enterprise Systems.

Although a number of established international software companies have what is termed "Enterprise Systems", they are generally based on hierarchically-based systems architecture and command huge sums of money, resources and overheads, not only for the software itself, but for the vigorous base study, creating a model, testing the model against the client-company's needs, installing and implementing the system, and finally tweaking the software for last minute adjustments. On-going support can be as high as ten per cent or more, of the total value of the software, per month. Also, during the process of undertaking the base study, the organisation is disrupted and is steered away from its core business.

The compelling and fascinating aspect of the Enterprise Systems developed by Eutech Cybernetics is that it recognizes the complexities and inherent limitations of the existing software as well as the extravagant sums required for their development. It examined the prevailing market and has developed its own model which can be described as "loosely-coupled". That is to say that other software packages, other operating systems and other platforms can all be harnessed together using the Eutech architecture as the enabling mechanism.

Having studied the regional market intensively, it should come then as no surprise that this next wave of software development from Eutech will encompass process optimisation, a re-engineering of the small, medium sized enterprises (SMEs) business or manufacturing facility. In other words, it will offer a "pollution-free" computing solution that will have enormous benefit for those industries that have become notorious burdens on the environment.

Also, the software is scalable, in that it can operate within a very large, integrated and complex operation, or smaller applications typically found in the SMEs. Furthermore, the design of the architecture is such that it will mean less of an investment by the end-user.

In addition, an area of environmental concern that is often overlooked and escapes scrutiny is occupational health. Although no software program or design can eliminate this hazard, it becomes an integral part of the re-engineering process to raise awareness of these issues by informing plant managers and owners, leaders of the various work groups, potentially affected employees, governments and the public-at-large of the risks involved. The Eutech solution addresses these issues.

While government and business in the region may not be very responsive to issues of humanity (refer to the WTO meeting in Singapore 1996), the growing costs of treating environmental poisoning and diseases may provide a certain motivation.

Certainly if the community pays more attention to the occupational health and safety issues — higher parent and infant mortality, an increased incidence of children born disabled — and treats them with the same respect as their desire for clean air, water and soil, they can become the catalyst in forcing management to adopt total process control technologies.

When the Eutech Enterprise System architecture is put into practice it will meet the objectives set out in ENREMON — developing a cost-effective process control methodology that will contribute to reducing the burden of industry on the environment.

However, in starting up a software development and distribution business, the objective to keep in mind is to identify the key factors for success and then to inject a concentration of resources into a particular set of areas where the company sees an opportunity to gain the most significant advantage over its competitors (real or perceived).

Even when the company in effect has no more management resources than its competitors, it can often achieve resounding competitive success if it is effective in bringing those resources to bear on the one crucial point called business strategy.

Among companies competing within the same industry or business, there are cases in which even though a company enjoys no initial advantage over its competitors and the key factors for success struggle is being waged with equal vigour by all companies concerned, a relative advantage can still be achieved by exploiting any difference in competitive conditions between the company and its rivals.

Here, the strategy for the Eutech consortium is to make use of the specific technology it has developed in concert with its partners in the Philippines, India and Canada, align itself with highly qualified regional distribution partners and emphasise the other differences in the consortium's composition of its own assets and those of its competitors. This method for presenting the company and its high-value products could be referred to as a business strategy based on relative superiority.

Irrespective of the fact that several major competitors (SAP, Oracle) enjoy a long history of success both internationally and regionally, the one way to unseat them, and other rivals, is with an unconventional strategy aimed at upsetting the factors for success on which the competitor has built an advantage. To arrive at such a strategy, the starting point will be to challenge the accepted assumptions governing the traditional way of doing business, the traditional way of developing the product, with a view to

seeing whether it is possible to change the rules of the game, upset the status quo, and thereby gain a novel and powerful competitive advantage.

Even where fierce competition exists in the market, and it will exist here once word of the Eutech solution gets to the street, success in the competitive struggle can be achieved by deployment of innovations.

These innovations may involve the opening of new markets, or the development of a new product, or redefinition of an existing product, or a combination of all three. These lines of action involve exploitation of the market by vigorous measures in particular areas untouched by competitors.

In the above we have examined how the principal concern is to avoid doing the same thing, on the same battleground as the competition. To opt for a single price war, for example, in which the competitors can follow suit (or can denigrate your product for being too cheap, or fault it for being too complex, or for any number of reasons), it will not only harm the profitability of the industry as a whole but may well strangle the strategy to be employed by the Consortium and its members.

One critical element to remember is that in a highly competitive situation in which the Consortium will find itself (competitive in the sense that it is entering an arena where proven product already exists); this is a 'first-time' collaborative endeavour for the Consortium and its members; there is lack of skilled engineering manpower in the country of the major Consortium partner; the yet-to-be-named major distribution partners, who will, by all accounts, command a premiere name in the region, has no experience in working with the by-product of such a diverse mosaic, the Consortium has to stand together to ensure its survival. Even with the unqualified support of Quorum Growth International, these issues must not be over-looked.

The ultimate aim, therefore, is to attain a competitive advantage in which the Consortium, its members and distribution partners can attain advantage through measures its competitors will find hard to follow, and extend that advantage even further.

Since the Consortium will be fighting with competitors who in some cases have equal, or even superior, qualifications, effective and persistent execution in critical areas will be the only differentiating factors.

When trying to search out key factors for this advantage for business success, the group must capitalise on the underlying theme of their corporate endeavour — that of creating an enterprise systems architecture that has at its core, an environmentally-friendly set of technologies and processes.

This becomes one of the prime selling points of the enterprise system in that it also facilitates the shift from mainframe to enterprise computing by using client-server technology that is non-proprietary and based on open standards.

To build on the expected relative superiority of the Eutech enterprise solution, the partners will have to understand the globalization of end-user tastes and reinforce the Consortium credo — that to succeed in expanding markets, the Consortium will have to demonstrate there is no economic nationalism. From this will flow an liberal exchange of ideas, with the individuals, their investments and participating companies growing into an organic bond among their economies.

Inevitably, the emergence of this novel approach to business — the interlinking of business, people, ideas, product with the environment, and socio-political issues — will bring an erosion of national sovereignty as this combined power of information technology touches local communities, academic, professional and social institutions; corporation and individuals. It is this borderless world in which the Consortium will present its participants a unique capacity for boundless prosperity.

### The Basic Market

As the information age accelerates into its second era, organisations are demanding superior technologies that take less time to get to market, and which have a higher reliability factor than before.

Some of the reasons for these demands stem from the constant questioning by executives of the considerable cost of investment in information technology that needs continual upgrading concomitant with high technical overheads; the costs of supporting the internal and external customers have become a dominant cost factor.

In many instances, the corporation discovers that the majority of the software budget is allocated to maintaining and updating old programs rather than creating or acquiring new ones; technology is leaping ahead with such determination, there is constant need for technology reviews to realign the organisation and keep it in its future business context.

Also, the globalization of world economies demand simpler and more open technology approaches to the re-engineering of the firm.

According to industry leaders and visionaries, there is a pressing need, especially in Asia, for enterprise systems architecture software that recognises the 'plug and play' concept. Since there so many varieties and

flavours of standards, architectures, and proprietary systems with so-called connectivity, a solution to that compelling need is potentially large, lucrative, and virtually untapped.

Having said that, one must recognise that the global software market is currently dominated by large U.S. multinationals who, along with developing their specific software, also set the industry standards for their particular operating system or application.

(One of the few non-U.S. software companies to have achieved world prominence is SAP from Germany). According to industry leaders and writers, this pattern is unlikely to change in the near future despite the outcry from government, business and in some cases, the industry itself.

Even in a country like Japan, with a software market valued at \$5 billion (and second only to the U.S.) - a country with a complex Kanji character set and 3 character subsets, and double-byte programming requirements - 95% of its software is imported from the U.S., localised, and distributed by local partners.

Dell, with its made-to-order products, is now threatening the entrenched and established Japanese computer companies, especially, its main rival, Fujitsu, by its aggressive pricing, direct marketing, and heavy advertising. For example, in 1995 Dell's sale of computers was 6 million units; in 1996, 8.3 million, and the forecast for 1997 is 10.5 million.

Only one indigenous Japanese software company has bucked the "buy U.S." trend and succeeded - Justsystems. Its word processing program, *Ichitaro*, is competing head-to-head with Microsoft who has developed its own Japanese word processing package.

Also the strong brand equity of U.S. products as well as their aggressive advertising and promotion has become a negative factor in fostering development of locally developed and produced software for international consumption. Though there are products developed locally, few make it to the international stage.

Unless one finds a niche.

The Eutech Consortium approach does that. It has spotted a gap in the market. It identified a social trend. It's creating a new product and service, basically an old one in a new way. It has discovered that for decades, many of the big business opportunities have been seized by regional conglomerates, or by the large multinationals who tend to dominate certain markets.

As John Naisbitt writes in *Global Paradox*, "The Mindset that in a huge global economy, the multinationals dominate world business couldn't have been more wrong...The smaller and speedier players will prevail on a much expanded field."

Within this field, as Naisbitt points out, companies like Eutech Cybernetics and its partners, selecting specific market niches that benefit both the economy and the ecology, will reap benefits.

What the famous Asian blend offers is determination and detailed implementation. This new mix has allowed the local home-grown companies to narrow the gap not only between themselves and their local competitors (in many instances local reps of the larger MNCs), but in some cases with multinationals as well.

In regions such as Asia and Canada, where you have absolute capital mobility, technical ability and management mobility, the rate at which you can catch up and overtake is exponentially higher today than ever before.

Asia's focused niche dominators, such as the Eutech Consortium, are placing themselves in a position to exploit a genuine opportunity to shape global business which, until now, eluded many of the region's conglomerates.

The writer also believes that a professional business union such as the one proposed by the Eutech Consortium will enhance the software's acceptability in the region and internationally, especially since it is strengthened by the rainbow coalition of all its members.

The organisational strength of Eutech impressed the writer since in wanting to dominate and lead in a new market, the executives have studied the industry they operate in, they have done extensive research of the market they are in and are doggedly pursuing their business ideas despite overwhelming odds.

Currently there are a number of international and local firms that have developed enterprise systems solutions that cross existing operating systems, standards, interfaces, and that are sold in the region. In certain instances, the cost of deploying this new software is prohibitive, since it demands the organisation submit to a rigorous study of its needs, thus taking the company away from its core business. Also, one finds that local developers are generally small, home-grown entities without any track-record of achievement, and have limited success, even in their own geographic region.



In researching the current market, one finds there is no software developed for process optimisation that meets all the parameters given it by the Eutech Consortium — resource recovery and recycling, pollution control and prevention, energy management and conservation. Where software for that purpose does exist, not all criteria are addressed.

Also, Asia has more conglomerates than any other part of the world. here you see companies that are in banking, transportation, construction, raw materials and so on. But that's not a sustainable model in the global economy. Since many of these same conglomerates will have to redefine their structures and ask themselves 'where are the businesses where we can actually win, worldwide?'

Many Asian conglomerates have also grown by being effective local partners of multinationals. They became the gateway into their countries. But if you want to get to the next level of the game, you have to push it the other way: the goal is to use the multinational as a gateway to global markets. To do that, you must have much more to offer than knowing the local economy well and having political connections. Although these are of major importance, you'll need core competencies that are valuable on a global basis.

A good example of how that transition is shaping up is Taiwan. There is not one single Western company that can build a laptop computer without help from Taiwan. What companies like Acer and Twinhead do is not serve as Taiwanese branches of multinationals, but as repositories of global capabilities that happen to sit in Taiwan, but are leveraged world-wide by global companies.

Asia also faces the challenge of moving from a production economy to an information economy. The world quickly moved from an agricultural economy, then to a mechanical one, and now to an information economy. Wherever you are, you have to compete in that information economy. The technology is available throughout the world, so there's no excuse for not being at the leading edge.

Eutech is already there with its enterprise system, its partners and the manner in which it has approached the problem of competing in the highly competitive technology environment.

In speaking with industry leaders, consultants and technology writers, an aspect of the software they found most attractive is that the architecture will not be subject to proprietary rights, thus available in the public domain.

A question posed by a number of industry executives was how to deal with the possibility of geographical expansion of the product, and then, expansion in the final customer outside the region.

The cost of product can also play a significant factor in its success. Consideration must be given as to whether price will be differentiated by geographical areas, by modifications to the product, or by second- and third-tiered distribution channels.

Competitors can play a nasty role in a "follow-the-leader" concept, where they can orchestrate a price increase or a price decrease for the product to destabilize a potential rival. (SAP has done that here on a number of occasions, resulting in law suits that have had to be settled in the local courts as well as international ones).

The other aspect in developing the software solution is the anticipated demand for the product, how it will be fulfilled, by whom and where. Since there will truly be a 'internationalism' of the product — Singapore, the Philippines, India and Canada — the question must be raised as to who has ultimate responsibility for fixes to the product.

Questions that come to mind are; "Who will service and how will support for the software, as well as its consistency be maintained? How will upgrades be administered? In what language will the manuals be written, will there be on-line support from an international or local support centre.

These require answering during the development stage, especially in situating each partner in its respective role.

Also, as the demand for the products grow, who will be the "ear" to the market for customer feedback, to orchestrate the necessity for upgrades, the add-ons, etc.

In reviewing comments from the executives of Eutech Cybernetics, and in evaluating the documentation from the Consortium partners in India and the Philippines, it is evident that Eutech has indeed done its homework in identifying the market as well as being judicious in selecting partners that will ensure the viability of the product leading to the Consortium's success.

A number of challenges facing the consortium, which having come to understand their expertise, will be answered are:

- who has ultimate control of the development of the software

- who will monitor the progress of the partners, given they'll be scattered in different areas of the world, working in different time zones
- the reporting structure of the group will be critical to the entity's success
- who will set marketing strategies and oversee their implementation
- the company must pace its strategy according to its resources rather than going to achieve too much too soon - it must guard against overreaching itself
- who will set the design/build/delivery schedule for the Consortium-members solutions, products and services

The design of the system architecture posed somewhat of a dilemma for the writer. Due to its complex nature, he took the liberty of describing it to a number of experts in the region. They all concurred that the way in which the product has been conceived, developed and designed will contribute to its position and make it extremely attractive to the market.

They acknowledged that the basic design feature and marketing difference between the Enterprise System and that of its main perceived international rival, SAP, will be its flexibility for its users across a wide range of platforms. Pricing will also be a main consideration. They also cited the rigid policies and procedures imposed by SAP and recommended that the Consortium be more open in responding to both market and business forces.

These same analysts and technology writers were also taken by the fact that so much thought and planning had already gone into the development of the project - aligning with international partners; the interoperability of all consortium partners; an extraordinary forum in which to exchange ideas; cross-cultural fertilisation of ideas and resources; respecting the environment and the human condition.

More importantly, the interest expressed by Mr. Bill Hutchison, managing director of Quorum Growth International in Singapore is an important factor in the anticipated success of this project, because as noted elsewhere in this document, Quorum, one of Canada's leading Venture Capital corporations, is well placed from its Toronto headquarters to lead the consortium's technology to market in North America.

It's the writer's belief that this proposed consortium of Singapore, Indian, Philippine and Canadian technology companies will put to rest the notion that

software developed in this region cannot find an international voice and broad industry acceptance.

As we enter the second era of the information age, the Eutech Consortium will demonstrate that products can be created by people, with values, aspirations, and by those who demand that the smaller, more open world we are living in be a better one.

In the opinion of the writer, this is a sound business investment for IDRC. First IDRC (the Centre) has demonstrated it has vision, insight and long-range planning with early and on-going support for the R&D conducted by Eutech Cybernetics. Second, the Centre has established extensive contacts among leading software companies in the Philippines and India and is highly regarded by those companies as a key business player/broker in the region. Third, because of its extensive contacts with the Canadian software industry, the Centre is well placed to develop strong and effective linkages between these two regions.

Also, on both sides, IDRC has assembled prominent individuals from a wide diversity of experience and fields of knowledge to contribute to the success of the entity. The inclusion of Quorum Group in the Consortium enhances the degree of expected success to be enjoyed by this unique combination of partners.

In addition, IDRC has played a significant role in identifying opportunities for Canadian software firms and their Asian counterparts to cooperate on issues that effect the everyday lives of all citizens and offer solutions for environmental management, resource efficiency and quality assurance.

Furthermore, IDRC has placed itself as a vehicle to advance international cooperation on global challenges, such as the preservation of the environment, protection of one's social rights, health, well-being and living environment.

This Consortium also promotes the understanding behind the Canadian and Asian peoples through enhanced mutual awareness of each other's strengths. It also promotes the development and transfer of environmentally-friendly technology with long term perspectives.

Finally, the writer lauds the Centre for having the foresight of becoming a required resource-hub. As such, it will enhance economic ties in such fields as software and information communications technologies in a way that enables these two dynamic regions to further invigorate their economies.

The magnitude and highly competitive nature of the problems that lie before the Consortium means that no single entity or nation can alone lead no matter how strong that country can be. The Consortium partners, by sharing their respective experience, knowledge and vitality, can work together by setting an example and building a new framework for global cooperation.

IDRC is a unique position and has an extraordinary opportunity therefore of becoming the information centre through which can flow the required information by providing timely information from the perspective of being connected into and understanding the local scene.