

Transcript of Interview with Geoff Emmell, CEO of Global Engineering (GE)

TIME Magazine's Man of the Year Geoff Emmell's accomplishments in transforming global business at Global Engineering may not find a parallel in real life. Geoff Emmell's highly disruptive and innovative strategies for growth and profitability of Global Engineering may be only comparable to Ayn Rand's portraits of the astounding panorama of human life in her seminal corporate novel *Atlas Shrugged*. TIME Magazine's senior editor Juliette Binoche caught up with Mr Emmell on the supersonic flight from New York to Tokyo and later in the Westin Hotel in Ebisu (Tokyo) where Mr Emmell was honored with the Japan Prize for unique combination of vision, altruism and economic growth to increase shareholder value as well as demonstrate ethical corporate responsibility toward the global community. This edited transcript was submitted by Juliette Binoche (JB) and approved for publication by Geoff Emmell (GE), an exclusive to the readers of TIME Magazine.

JB Thank you Mr Emmell for agreeing to spend some time with the readers of TIME Magazine.

GE I thank you for taking the trouble to travel. Hope it is worth your time.

JB Quite sure your vision will be illuminating as well as scintillating. The broad and crucial question is what triggered you to combine the widely diverse arena of secondary education as a business catalyst for operational growth and profitability of Global Engineering?

GE Several issues converged on us to conceive and then design parts of this disruptive strategy, it is, as you know, still in progress. Let me try to capture some of the issues that were on my mind but they are not in any particular order.

[1] In just one decade, (2001-2011) we were wiped off the top 10 list of companies ranked by market capitalization. In 2001, our market cap was close to half trillion dollars and by 2011 we were less than half of that number. We are no longer in the top 10 list. Our current revenue is about \$150 billion and 54% of the earnings are from overseas operations.

[2] Clearly we need to increasingly focus on products and services that can scale to keep us profitable. In other words, we must grow our overseas operations. We need to deliver systems or solutions, not just widgets or equipments, to meet this global scale without insurmountable financial barriers to entry in these emerging markets where the "scale" is immense but purchasing power parity is limited.

[3] By market cap, the top 10 list of global companies included Microsoft for each year from 2001 through 2011. We have not explored software and analytical services sufficiently. But, about \$4 billion in revenue trickles in from software services embedded in other lines of business. This is a growth area that requires out of the box thinking and development. Of course we must remain cognizant of the risks of entrepreneurial innovation but if we believe in "imagination" then it should be more than just a by-line attached to our logo. We must try to adopt a systems vision to solving problems and perhaps embrace open source to improve interoperability [i]. We must imagine new ways to profit from globalization [ii].

[4] When I think about markets and business growth, the critical factor is demographics of the market. That is, the potential customer to be, not the customer we know or exists. The question is, using an analogy from hockey, where will the puck be, not where is the puck now. I think about demographics with respect to market penetration and preferences. It is a lesson from McD. Happy Meal is a strategy to create the next generation of loyal customers for Angus Beef Burgers. Even more relevant is what McD did in Japan. They added to the local menu items preferred by Japanese adults, seafood tempura burgers, in keeping with the demographics in Japan which are increasingly skewed due the very low birth rate.

[5] In our current line of business, the demand from the aerospace industry is pretty high and we profit from selling aircraft engines. I look at the customers and it is obvious that planes are on order from India, China, Indonesia, Singapore. Why? The billions in these emerging markets in Asia expect to afford air travel for business and pleasure. You probably know that almost one third of India's 1.2 billion are in the 0-14 years segment. **That** is our future market, in the next 10-20 years. I want to find ways to enlist a major segment of that population to become loyal customers for Global Engineering.

[6] The 400 million in the 0-14 year segment in India ⁱⁱⁱ has a parallel in China although China's median age is quite a bit higher than India due to drop in China's fertility rate. Let us add another couple hundred million in that age range from the rest of SE Asia. Roughly we are talking about 1 billion school-age children in SE Asia alone who can be our potential customers, if, they knew what we do, what services we can provide, what products we sell but only if they have a relationship with our brand and if we can earn their business trust.

JB This is not just another annual plan, this sounds like a multi-year plan for future growth.

GE Absolutely. A company like Global Engineering with 300,000 highly educated employees must have a vision of how to grow its business over the long term without compromising the short term need every quarter to remain profitable and increase shareholder value. If you analyze our dividend payments over the past 35 years, you will find magnitudes of increase, which is 0.00833 in 1975 to 0.15 cents in dividend in 2011. We need to maintain and exceed this growth trajectory. Long term sustainable growth must find new markets. Hence, my personal drive to repeatedly converge new strategic innovation with imagination and the spirit of entrepreneurship commonly found only in start-ups. If we stay within our comfort zone and do not invest in dynamic diversification, we will lose our edge and our competitors will lure away our customers. We will become a dinosaur in an era where time is increasingly a functional analysis of Tweets or Facebook postings or mobile services linked to social media. In other words, we cannot remain satisfied building only the engines of the plane, we have to find ways to help fill the seats on the plane, too, if we want to continue to profit from building airplane engines. It is a business ecosystem. We must play our role as a channel master and global behemoth to make sure all the parts of the machine are well-oiled. That is where comes in our corporate social responsibility. Our pursuit of profit follows the route of ethical globalization among world communities.

JB It seems that the social tapestry of your business ecosystem is important to you.

GE Not only it is important, you can say it is the Holy Grail. If we fail to build the society which can support innovation then how do we extract the value of our innovative products? If we cannot help build the society which can pay for the services we offer then what have we achieved? If we wish to employ creative and brilliant people but we have done our part to cultivate the supply chain of talent then where will we find the educated employees?

JB Basically, education [iv] of the masses. Thrun and Norvig may have a similar idea [v].

GE Education is the bedrock. The educated consumer is your best customer. We bring good things to life and the foundation of good life is in part rooted in education. Horatio Alger is alive and well in our social fabric. The current Governor of Massachusetts, Deval Patrick is a living [vi] legacy. Education of the boy Deval Patrick changed the destiny of the man Deval Patrick. The height attained by our President is defined by his education. As you know, I serve as the Chair of the President's CEO Roundtable. I can tell you without any hesitation that all my colleagues on that panel will agree on one issue without hesitation – the need for educated and skilled HR in the US workforce. So, yes, Stanford's AI course is right on track.

JB Hence, your unusual business development in secondary education.

GE Yes. But, it was not a leap. It was an informed choice based on the birth of Khan Academy and MIT's OpenCourseWare (OCW). In one hand free online tutorials and the other is a model of excellence. We are not philanthropists and I do not envision a free for all system. I will let Stanford University or Mr Gates pursue those altruistic options. My business plan orientation is focused on the markets I mentioned before, the market of about one billion potential school-age customers in Asia. I guess about 10% of 1 billion may be from households who may pay \$2 per day for their online education, starting at age 11 or 6th grade.

JB Which translates to revenue of \$73 billion per year for this project, alone.

GE But it's not a really \$73 billion in annual revenue because of the ecosystem necessary to execute this project and the number of paying customers may be staggered over years.

JB True. You have partners and royalties to pay.

GE Correct. We have created a structured secondary education approach which produces a final output which has brand recognition and global credibility. We have licensed ebooks or purchased a variety of existing resources which we have subjected to rigorous frame by frame analysis, evaluation and testing by experienced cadre of teachers from all over the globe. We have taken note of the California K-12 Standards that were influenced by Nobel Laureate Glenn T Seaborg but added the rigor expected in Asian markets. Taken together, from about age 11, a student can start her/his education, online, on an Apple MacBook computer provided at no extra cost if you subscribe to SES or secondary education service. In essence, this is a micro-payment based software as a service (SaaS) for education.

JB There are many reasons why this may or may not work and I am sure you know at least some of the negatives or what people like Clayton Christensen may say about your effort.

GE Naturally. There will be nay-sayers but the role of a leader is to provide leadership for change which may not be in line with conventional wisdom or the “forced fit” that Clayton Christensen advocates. Nothing will ever be attempted, if all possible objections must be first overcome. That is a quote from Samuel Johnson (1759). Let me explain how we have structured the \$2 per day SES which has two broad components – tools and content.

We have partnered with Apple for the hardware which makes the tool instantly appealing to pre-teen and teenagers. The MacBook may be replaced every 2 years, which makes it attractive for Apple to introduce new hardware. We share with Apple 25 cents on the dollar which amounts to \$365 per MacBook for a potential market of 100 million plus the salvage value of MacBook when returned by the service subscriber after 2 years for a new model. Apple can sell its iTunes, iMovies and other entertainment services to the student. The MacBooks will have screens that swivel and detach to convert as an eBook reader or iPad.

We pay 5 cents on every dollar to University of Cambridge which administers an end of the course (EOC) exam each year through its Local Online Examinations Syndicate (LOES). Successful EOC’s each year is finally combined with the school leaving exam for the final high school graduation certificate from the University of Cambridge. I value this liaison and the academic recognition this great institution offers to our joint venture in education.

JB Then \$50 billion is your annual revenue if 10% of the 1 billion is on your subscription.

GE For the secondary education pool that is likely. But, we also have started the Bachelor’s Degree Program in select subjects where we have partnered with University of California and MIT as well as the Indian Institute of Technology (IIT). This is a restricted offering because hands-on experiments in science subjects are the rate limiting factors in online education. For BS degrees we are trying to mimic the content guidelines as found in MIT OCW. We are focused on mathematics, statistics, computational mathematics, computer science, systems engineering, business administration, finance, computational finance, principles of biotechnology, physical science combines physics and chemistry and finally, energy and environmental science with simulated labs. This is certainly a work in progress and we are taking small steps, subject by subject. The subscription system for BS is slightly different and is approximately \$25 per credit. Graduation requirement includes a thesis for honors students and 200 credits (courses are 4 credits, each) or \$5000 per student.

JB In this segment, you have a greater population if you consider the 15-45 age group who may pursue a BS degree from your online service given the stellar credibility of your partners.

GE True, but I think we will stick with the conservative estimate and guess that the pool will still be about 100 million candidates which will translate to half trillion in gross revenue from Asia. We can expect students from US, EU and South America. We have to be vigilant about quality, standard, rigor and ultimately the earning potential of the degree conferred.

JB So you are adding to your portfolio the business of online education or content vendor.

GE I hope to be better. There is demand for a global yardstick and customers are seeking relief from the fly-by universities that lure students and offer shoddy products. If education is the global foundation and if we can deliver the content in a manner that the world can afford, then why should I squander this business idea or let it remain a light shining in obscurity?

- JB Let me play the devil's advocate and try shooting some holes in your brilliant plan.
- GE That's what I need – I need to know why it may fail and then work to correct the problem.
- JB Easy things first – you roll out the content and a group in China copies the instructional modules and sells it for a tenth of your cost. How do you stop them?
- GE You cannot. But remember that there is an output. The school leaving diploma from the University of Cambridge. You can leak the content and spread the learning, which is not a bad idea but you cannot deliver the stamp of recognition. For BS, a similar stamp from globally recognized institutions is at the end of the line. Without the stamp of credibility the access to jobs and higher quality of living may fall short. Mom & Pop stores may employ people without the stamp of recognition but claiming to have acquired 'similar' content without a transcript or visible online portfolio may not fly if from a HR perspective. This is a branding issue. We see people peddling faux Louis Vutton purses and Rolex watches on Riva Degli Schiavoni opposite the Metropole Hotel in Venice or outside the Sheraton Grande Sukhumvit in Bangkok but LVMS and Rolex are still in business. Mimicry spreads the word.
- JB What about translation into local languages?
- GE That is under consideration and will happen in part. But, the global language of the business world is still English. There is no doubt that translation in Chinese, Thai and Hindi may increase our business penetration. We are also exploring bringing the English speaking world and our business content, for example, our six sigma principles, to the Chinese market. Hopefully we will find the appropriate push-pull necessary for mutual enrichment.
- JB Let us say that a customer in India signs up for SES and takes home a shining MacBook. Then they don't pay, move or claim that it is stolen. You are liable to Apple. What do you do?
- GE We are also in the insurance business and this may segue to the idea why education is not only a business but a platform to bolster our other businesses. You deduced correctly that we will cross-sell a form of insurance and suddenly we have millions of new customers for our insurance micro-payment business. You mention the MacBook being stolen from the customer's home. Isn't the home insured? Aren't the contents insured? Cross-selling home-owners insurance crosses my mind. If you don't have a credit card we can evaluate your credit history and explore if you qualify for a credit card from our card services. Are you planning to buy a new flat or house? We have mortgage services that can offer loans, assist with financial planning, portfolio risk management, investments, estate planning and wills.
- JB Then, education is just a hook?
- GE No. It is much more than a hook. But, can it serve as a hook? Yes, it can serve as a hook, too, if you begin to converge retail up-selling strategies related to lifestyle services, finance and technology solutions desired by billions to improve their quality of life and living. Without education they cannot move ahead. Hence, education is a platform. The "hook" is a subset.
- JB I am going to come back to your distinction between a platform and a hook but I still want to know your protection from liability if someone simply disappears with the MacBook after they sign the micro-payment plan or SES contract. Will you chase the crooks or take a hit?

- GE Stealing is easy to fix. Each MacBook has its unique IP address. When the stolen MacBook is turned on, its location-aware wireless function [vii] will broadcast itself on the network. If activated, the network will remotely deliver an instruction and it will turn off the MacBook. It is similar to use of telematics to turn off the ignition in a stolen vehicle. If the customer has really suffered a loss (it is really stolen), then the customer can activate the SAFETY PIN which initiates a text message specific to the IP address of the MacBook. This code, when delivered, will switch off the MacBook using a device to device (D2D) encrypted command.
- JB What about the use of SES on PC or India's answer to low cost computing, the Simputer?
- GE We are thinking about it but we are currently inclined to pursue a virtual vertical integration where we have dedicated partners in our ecosystem. Apple has a brand recognition that we wish to use to our advantage. We want to deliver a high quality product with attractive features which are user friendly. Apple offers a variety of entertainment options and the company has a commitment to education. However, all advantages are temporary. If we find a reason to include PCs or start localized collaborations with Simputer or Acer in Taiwan to augment our penetration, then we will cross the bridge, if we get there.
- JB Should I conclude that access to SES requires an always-on connection, preferably wireless?
- GE You have hit upon an important point and the answer is going to be somewhat amorphous. In an ideal scenario, an always-on wireless connection is desired to interact with the content from the cloud-grid. But, the content including quiz, exams and evaluation can be packaged and delivered on a drive (different payment plan) which will reduce the need to be connected except for occasional exam uploads or tutor conference. Hence, urban areas with higher broadband penetration will be better suited to online education. In emerging economies the bulk of population may be in rural areas devoid of connectivity. If the 80/20 rule applies and 80% of users who can afford to pay are in urban agglomerations, then, the always-on model is the default. But in Africa, India, China and Indonesia it is not so simple.
- JB Therefore, the medium of delivery, for example, cable, broadband, 4G or WiMax, can become the show stopper for your education SaaS in the geographies with most population?
- GE Yes. You are on the right track. Let me ask you: what would you do if you were in my shoes?
- JB Those are very big shoes! But, if I had your engineering support then I would become a wireless service provider and profit from vertical integration by delivering the medium.
- GE Exactly. To deliver the education from cloud based grid services we are adding service delivery or telecommunications to our business portfolio. Vast areas of the world with significant population are still in the "dark" and will limit our SaaS access to new markets. If we are serious about growing software analytics and services as a profit center then we must not rely on someone else to deliver our services. New WiMax protocol 802.16m makes it possible to deliver WiMax to these markets. We may jump start by buying companies like Blue Ocean Services or Altobridge. This integration will enable our customers to connect, use mobile services similar to TOKTUMI to place phone calls through a pervasive mesh network rather than requiring a telephone contract service provider (AT&T, O₂, AirTel).

JB Are you implying that your vertical integration approach will enable your 802.16m network to deliver voice and video which may put phone companies and providers out of business?

GE Hypothetically. It may reduce traffic for traditional telcos. Mesh networks can use mobile handsets as a receiver and a transmitter or router. If we deliver the 802.16m medium, then it will carry voice, data, video as long as you are within our mesh. Outside the mesh the cell towers may step in and what you now have is an end-to-end truly pervasive network. This is not a new tool but few places except Seoul have a functional and reliable WiMax medium.

JB Will other service providers be allowed to deliver their services on your network?

GE Of course. We can bill customers and share profit with other vendors transmitting data, voice and video using unique IPv6 id [viii] and packet tracking software SaaS from our software and analytics division [ix]. WiMax eliminates the need for hot-spot locations. It has a wide range and even if you are in the middle of a parking lot you can still look up Google using WiMax. Customers pay only for what they use. Vendors (Google, Amazon) can pay us when their services are accessed using our mesh or if there is a mutual benefit then we may execute reciprocity contracts, for example, our services on Amazon's cloud EC2 via WiMax. If you want to sell cars, you must help to build the road. In our case, SaaS delivery medium.

JB If you have an education customer who must access your education SaaS in the cloud then you provide the delivery medium, WiMax 802.16m, in this case. The medium can deliver iTunes or stream Netflix movies. You bill for that delivery and it is a source of your revenue or profit sharing with vendors using your medium or some form of financial *quid pro quo*.

GE The education platform is an investment by the customer for her/his future and quality of life. The education platform is our investment in education as well a tool to acquire and retain lifelong customers. We earn revenue over the lifecycle of the customer as long as the customer relationship remains **relevant** and delivers on-demand services for the customer as she/he matures from pre-teen to teen and then an adult, gainfully employed. If the adult requires air or train travel or logistics or healthcare, we have the relevant business units.

JB The education platform that you are delivering is also advocating a global standard of education. Isn't it? You are following a curriculum that your customers are buying and by the power of the market invested in you, you are establishing a *de facto* standard. In fact, if you were to administer an alternative to SAT then many institutions may also choose to use your evaluation for college entry purposes. Do you wish to raise the bar on education?

GE Yes. This is why we must remain vigilant about rigorous standards but without being elitist or exclusionary. To meet diverse needs, we will differentiate instruction plans which may offer various levels of graduations, diplomas and degrees. Rarely, one shoe fits all.

JB It appears that you are keeping the customer in focus at all times while converging and adapting the development of business services to serve the individual either in a personal capacity or in their business dealings, over their lifecycle. In both instances, do you expect to provide the products and services, as best as possible, from your business units?

GE That is correct. STEM [x] education or healthcare [xi] SaaS are personal services which empowers the individual to pursue a financially rewarding lifestyle. An adult may wish to connect to social media as well as execute responsibilities where intelligent objects [xii] may play an important role through the internet of things or IoT. Adults may require personal financial services or for business including insurance. Financial success translates to consumption of business services such as logistics, travel, energy [xiii] and security. These in turn use heavy equipment, risk management [xiv] and capital as well as business analytics based on connectivity of objects through the business IoT. We have business units in these sectors which may be increasingly chosen by the decision makers (individuals) who have grown to trust our brand.

JB You have twice mentioned healthcare in the past few minutes. How does healthcare fit in this context?

GE The trust we wish to earn through quality services and brand recognition may be the single most critical factor which may enable us to pioneer a new form of healthcare [xv] business. Isolated or disjointed attempts to offer “pockets” of health services are unlikely to succeed. The demise of Google Health is proof. Individuals are unwilling to store their medical data in Google’s vault. We want to take a long term approach to healthcare and establish with our customers an in-depth relationship. The healthcare genie in our company is still in the box because we have thus far grown our health business as a device engineering or diagnostic tool kit business rather than adopt a systems or solutions approach. Transformation and change is on the agenda within our healthcare silos. We are mapping the gaps in our system. Providing healthcare services as a solution must begin with the healthy. Keeping customers health aware and healthy earns the trust. Hopefully we will have begun the process of gaining customer trust with our education platform, both for the young and adult learners.

We are increasingly inclined to view healthcare from a radically “old” approach [xvi]. The decentralization of health services has driven up the cost of healthcare because each decentralized unit must operate as an independent profit center to remain viable. The cumulative effect of such a system is likely to reach a threshold where the quality of service deteriorates because the recalcitrant business drivers (KPI) undermine the system that it was designed to serve. At least in the US, we have arrived and may have even crossed over that threshold. Thus the need for the radically old approach of a vertically integrated healthcare service (VIHS), in much the same way we view the education platform.

JB Aren’t you applying the same principles of integration in two very dissimilar verticals?

GE Yes. That is what we call a systems approach. Vertical integration is a principle and applicable to many operations. Apple is a modern example of this modus operandi. Dell and Apple are both in the consumer electronics industry but Dell’s modular approach to boost supply chain efficiency and reduce cost is rapidly approaching its asymptotic limit. On the other hand, Apple’s integrated approach has projected the company in an unique league where its cash reserves at hand on 31st July 2011 were in excess of the US Treasury prior to debt ceiling approval by the US Congress on 1st August 2011.

Without reducing QoS, healthcare cost reduction may be accomplished under a loose vertically integrated system [xvii]. One of the tenets of VIHS is the remote acquisition of health data from healthy individuals to monitor their physical state. We are in the business of device engineering as well as HIT or healthcare information technology solutions, for example, Centricity. Data from our devices are largely uncollected because we do not have a healthcare service. We are positioned as a health systems vendor. Centricity is sold as licensed software, similar to SAP products. The devices, users, patients and software are operating in silos, albeit, profitable silos but the data and the semantics are disconnected.

The task ahead is to orchestrate these health related pieces to provide solutions both for the industry and the individual. We must use software and analytics to extract information from the data. The individual user is the key in this process, the solution and service must be in primary relationship with the end user. Hence, trust between us and the user is crucial. It is this trust that we wish to inculcate and the platform of education may be one key catalyst. Healthy individuals must agree to remote healthcare monitoring [xviii] and the data uploaded through our healthcare SaaS for analysis. This is a difficult step which must be highly secured and in that respect the data on our own mesh network can be better protected. For this reason, parcels of offering (Google Health) may find it difficult to gain traction.

Our healthcare business has a long history. The industry credibility from the device business must be translated to individual credibility. Data from our devices and diagnostics along with remote monitoring data from individuals will begin to form a medical profile of the individual which can be of value if delivered in real-time to the point of care physician. The seeds of such a system are scattered in our units. We must work to converge systems with a clear vision and to offer a solutions approach which can scale as healthcare SaaS.

The ability to remotely perform routine tests for diabetes (blood glucose) and heart disease (blood cholesterol) will save time and money for hospital out-patient clinics. The data, over time, will provide clues to patterns of change, which, if detected, may save an emergency visit or catastrophe. These are not fly-by-night operations. These are long term investments in the community. To be mutually beneficial the community must trust the service provider. Education as a platform engages the community through their children and the educated community is likely to understand the need for and subscribe to such healthcare SaaS.

JB You believe that preventative medicine through remote health monitoring will be influenced by the relationship building exercise that commences with education platform?

GE What's the alternative? Individuals volunteering their medical stats for analysis? If that were true then why did Google Health languish? Some say we are not ready. True. There is certainly an element of that in the West but the reasons may be different in the East or in Asia. We do not yet have a healthcare SaaS to broach the subject in India or China. As you know, we have just moved our 115 year old x-ray equipment operation from Waukesha, Wisconsin to China. Manufacturing and selling the equipment is the old business. Can we out-perform our key competitors, Mindray and Siemens, in China by selling x-ray *services* as a part of biomedical decision systems (**bMDs**) instead of only selling the x-ray machine?

As suggested [xix] in bMDs, x-ray data from our devices may be correlated with fractures to determine osteoporosis. Forecasting [xx] potential fractures based on dietary information, data mining and pattern analysis may improve the quality of life. The challenge is to migrate from the *status quo* to the analysis of data. We must reshuffle our product marketing and view the potential solution approach with new lenses. If we can associate the x-ray data to blood pressure monitors (almost all patients in a clinic and hospital), then we begin to create a patient profile. The ability to create and provide these tools that can connect the patient with the doctor using healthcare SaaS is the next frontier driven by intelligent [xxi] analytical software, business luck and a forum for imagination to flourish. We must help the customer to imagine and that may start with education. We must listen to out of the box suggestions [xxii], have the conviction to experiment with what ifs and execute proofs of concept in the field because we cannot build a race horse using an earthworm as a model.

JB This has been a flight of imagination. I thank you for a sense of the future for Global Engineering and the world, in general. Is there anything else you would like to add?

GE Perhaps a few words on energy. In my view we depend on H₂E or the trinity of education, health and energy for the progress of civilization [xxiii]. We are committed to energy business and believe that safe nuclear energy is essential to reduce the volatility due to fossil fuel dependency and the *what if* scenarios post-2050 for source of liquid fuel [xxiv]. We are not yet invested in manufacturing energy and that may have to change. Open source micro-manufacturing of non-fossil, carbon neutral, photo bio-fuel may help global energy self-sufficiency [xxv]. The submission should have qualified as a project in our Eco-Imagination Challenge. In conclusion, I wish to emphasize the need to stimulate business growth through entrepreneurial alliances and a culture of identifying out-of-the-box or open source innovation in order to harvest the benefits of connected imagination. Think different!

i <http://esd.mit.edu/wps/esd-wp-2006-10.pdf>
ii <http://esd.mit.edu/wps/2007/esd-wp-2007-24.pdf>
iii www.censusindia.gov.in/Census_Data_2001/
iv <http://wp.me/p1z8d1-3>
v <http://www.ai-class.com/>
vi <http://wp.me/p1z8d1-l>
vii <http://wp.me/p1z8d1-D>
viii <http://esd.mit.edu/wps/2008/esd-wp-2008-09.pdf>
ix <http://wp.me/p1z8d1-D>
x <http://dspace.mit.edu/handle/1721.1/62251>
xi <http://esd.mit.edu/wps/2008/esd-wp-2008-17.pdf>
xii <http://esd.mit.edu/wps/2008/esd-wp-2008-09.pdf>
xiii <http://dspace.mit.edu/handle/1721.1/59804>
xiv <http://dspace.mit.edu/handle/1721.1/43948>
xv <http://esd.mit.edu/wps/2008/esd-wp-2008-17.pdf>
xvi <http://wp.me/p1z8d1-r>
xvii <http://dspace.mit.edu/handle/1721.1/62251>
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xxv <http://dspace.mit.edu/handle/1721.1/62251>