オープンリサーチセンター整備事業

「アジアにおけるインターネットビジネス教育システムモデルの国際開発研究」

最終報告書

2009年3月

青山学院大学大学院　国際マネジメント研究科

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iBiZ2008　International Workshop for Net Business Ethics

iBiZ2009 シンポジウム

報告書

はじめに

本報告書は、国際マネジメント研究科長を研究代表者とする「アジアにおけるインターネットビジネス教育システムモデルの国際開発研究」プロジェクトの刊行物である。このプロジェクトは、私立大学学術研究学術高度化推進事業でのオープンリサーチセンター整備事業に採択され、2004 年度から５年間を期間として、現在、最終年度を終えようとしている。オープンリサーチセンター事業は、「多様な人材を受け入れ、研究成果を広く公開し、オープンな体制の下に、研究を推進する」もので、対象には３タイプあり、本研究科では「高度専門職業人養成型」のプロジェクトとして選定されている。「企業研究者当の社会人を研究分担者として研究組織に受け入れ、高度専門職業人の養成および地域社会等への貢献を図るもの」として、研究をすすめてきた。

本書は、2006 年度にまとめた中間報告書以降の 2007 年度および 2008 年度における研究成果と国際的な推進の一環として企画された研究および開発の成果をまとめたものであり、特に、2008 年 2 月に開催した国際ワークショップ（iBiZ2008）の報告とそこでの論文ならびに 2009 年 1 月に開催した国際シンポジウム（iBiZ2009）をまとめている。iBiZ2008 国際ワークショップは、ホノルルにおいて開催し、本プロジェクトの特質である国際性をもった「地域社会への貢献」と高度専門職業人養成のための教育システムモデルという課題を達成する中間点として大きな位置をもつと考えているネットビジネス倫理に関するものである。iBiZ2009 国際シンポジウムは 5 年間の研究の総まとめとしての位置と、学術研究の成果である仮想ショップ関連研究の成果を発表する位置の２つをもっている。

したがって、iBiZ2009 はこのプロジェクト全体の総括をしており、このような点から、iBiZ2009 での研究科長挨拶をもって本書の挨拶とする。

2009 年 3 月

青山学院大学大学院
国際マネジメント研究科

研究代表者　iBiZ2009 挨拶

本日は皆さん大変お忙しいところ、iBiZ2009 シンポジウムにご参加いただき、誠にありがとうございます。

まず、本日のシンポジウムの位置づけについて少しお話ししたいと思います。青山ビジネススクールは 2004 年度から 2008 年度にかけて「私立大学学術研究高度化事業」(オープンリサーチセンター整備事業）の助成を受けて、「アジアにおけるインターネット教育システムモデルの国際開発研究」プロジェクトに取り組んでまいりました。

いうまでもなく、IT 革命とは時代の趨勢であり、Information Technology (IT) をビジネスや教育の現場にどのように活用していくかということが企業や教育機関にとって重要な課題になっております。私達はこういった考えのもとで、これまで IT を活用した教育システムモデルの研究に取り組んで、その成果を MBA 教育に活用してまいりました。

これまで私達は、これらの研究成果を 2007 年にはマレーシアで開催した iBiZ2007、2008 年には米国で開催した iBiZ2008 で発表して参りました。今回の IBiZ2009 は 3 回目の発表の機会であり、このプロジェクトの最終報告会でもあります。

本日は青山ビジネススクールの多くの教員や学生がこれまでの研究･教育の成果についてご報告いたしますが、あわせて海外から 4 名のスピーカーをお招きしておりますので、ここでご紹介したいと思います。

Dr. Wanda D. Bigham, IAMSCU

Professor Ray Bareiss, Carnegie Mellon Sillicon Valley

Dean Steve Miller, Singapore Management University

Dr. Ted Brown, Martin Methodist College

本日、これらの素晴らしいスピーカーをお招きできたことを大変うれしく思っております。

私は、青山ビジネススクールの研究科長に就任してから、青山ビジネススクールの教育の重点のキーワードとして、グローバル、アントレプレナーシップ、IT の３つを掲げて、これまでカリキュラムの改善に取り組んでまいりました。このプロジェクト自体は今年 3 月で終了いたしますが、私達は引き続き IT を企業の経営やビジネス教育に生かすという問題意識を持ちながら、よりよいビジネス教育を追求していきたいと考えております。皆様には引き続きご支援を賜るようお願い申し上げます。

最後に、このシンポジウムが皆様方のビジネスや教育活動に有益なものになることを祈念いたしまして、私のご挨拶を終わりたいと思います。本日はどうもご参加いただきましてありがとうございました。

青山学院大学大学院国際マネジメント研究科
研究科長　　高橋文郎

研究推進担当より

5 年間のオープンリサーチプロジェクトを無事に遂行することができ、関係者に感謝する次第である。この間、研究代表者である研究科長の交代があり、新研究科長が研究代表者となった。しかし、本研究について方針は継続され、研究推進担当は継続して担当することができたので、研究開始初頭におけるプランにそって、これを進めた。

大別すると、教育内容・コンテンツに関する側面、施設・設備関連に関する側面、学術研究に関する側面の３つにわけることができようが、それらのいずれについてもビジネススクールたるにふさわしいものは何であるかを常に念頭においてプロジェクトの遂行をしてきた。教育内容に関しては、他に例がない科目の設計と実施があいつぐこととなった。施設・設備面においては、インターネットビジネスラボラトリの充実とオープン型のコンテンツ閲覧ファシリティの充実が大きな点である。学術研究面においては、当初のプランを目標として、インターネット上の仮想商店街における仮想ショップに関する研究が目途をつけることができた。これらはいずれも時代の流れの中で、これからの大きく影響を受けるものと考えられるが、この 5 年間の成果を礎として、今後も継続して当該分野の研究と教育の進歩と改善に貢献していきたい。

2009 年 3 月
オープンリサーチセンタプロジェクト
研究推進担当
教授　井田昌之

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第 1 部　最終報告：成果概要と国際会議報告

第１章　成果の概要

（１）研究プロジェクトの目的・意義及び計画の概要

本研究は、産学連携と国際共同研究により、アジアにおけるインターネットビジネスに関する教育システムモデルの解明を行い、それに基づき、効果的なカリキュラムの開発方策を探求し、プロジェクト学習形式およびケース学習形式のために必要なグローバルモデルを活用し、多国間の取引および調達の教育について、複数グループによる仮想市場を通した実習を伴うというこれまでにない方式を研究開発することを目的としている。日本においてはこうしたビジネスとインターネット技術の境界領域での教育方式の確立は未だ十分といえず、この研究を通して、高度専門職業人の要請およびグローバルな経済社会への貢献を目指す。

研究計画の概要を次に述べる。研究を遂行するために実務に通じた産業界からの研究者を受け入れ、国際的な市場に精通した国外の研究者を受け入れ、それらの連携を通してあるモデルを開発し、本研究科のビジネススクールカリキュラムにこの成果を組み込み、その実践的な教育過程を通して、研究成果の評価をおこなう。また、並行して、国際ワークショップ、国際会議の開催、ホームページの開設により、研究成果をタイムリーに発信することにつとめる。これらにより広く企業人や社会人にも公開し、本分野に対する一般の理解増進を図るなど、研究成果の幅広い公開にも留意する。

本研究プロジェクトは、アジアの社会的、経済的、文化的特性を教育システムモデルに組み入れ、インターネットビジネス教育システムモデルを開発研究し、アジア経済の持続的発展に寄与するところに特色がある。

以上を、平成 16 年度（2004 年度）よりの 5 年間で次のような順序で実施する計画を持つ。

○平成 16 年度（2004 年度）：基本設備の導入、改造工事

・インターネットビジネス教育の実施のための基本的な機構の設計・施工と基礎調査研究を行う。

・５号館 530 教室にインターネットビジネス教育装置を整備する。

・仮想的にリアルタイムの競争をシミュレートするためのラボのレイアウトを開発し、テストをする。最大 6 名を 1 グループとしたグループプロジェクト型の学習形式の試行をめざし、それに合う最適なラボレイアウトを決定する。

・また、多国籍環境にある仮想市場を規定し、そこにある企業が具体的にもつべき機能、サーバ、などの要件を洗い出す。

○平成 17 年度（2005 年度）：パソコンの導入とパイロットモデルテスト

・パイロットモデルとなる教育コースウェアを試行する。

・本研究組織に所属する社会人大学院生をグループに分けて、それぞれに仮想的な役割を与え、それに沿って、実際的なウェブサイトの構築とその利用をシミュレートさせる仕組みを確定させる。

・また、国際ワークショップを開催し、中間的な成果の公開と研究の進展のための知見を得る。
・ホームページを試行し、研究成果を広く一般に公開する。

○平成 18 年度（2006 年度）：コンテンツ開発と試験運用

高度専門職業人の育成を目指す本研究組織における実際の教育として、複数グループ間による競争原理を導入し、その教育コースの蓄積とユーザインタフェースの開発を行い、ソフトウェアおよびコンテンツの開発を進める。
・また、国際ワークショップを開催し、中間的な成果の公開と研究の進展のための知見を得る。
・ホームページの内容を実質的なものに更新し、コースウェアの概要を広く公開する。

○平成 19 年度（2007 年度）：評価

・前年度までの試行の評価を行い、修正するべき点、改良するべき点を調べ、それに基づいて、システムの最適化を図る。
・国際ワークショップを開催し、中間的な成果の公開と交流を行う。

○平成 20 年度（2008 年度）：最終成果のとりまとめ

・実践的なモデルを完成させ、それに基づき、上記の研究開発の成果の最終的なとりまとめを行う。
・国際シンポジウムを開催し、最終報告を行うとともに、成果報告書を刊行し、広く一般に公表する。

計画の達成目標としては、次をおいた。

初年度および第 2 年度に仮想環境の構築を開始し、テストを行なう。その結果は第 2 年度のワークショップにより検証する。第 3 年度においては、半期分の講義・実習を内容とするカリキュラムを中間的に完成させ、ソフトウェアおよびコンテンツを開発し、実験的な教育に応用する。第 4 年度にこれまでの成果の評価を行い、モデルの最適化を図る。第 5 年度には最終成果を発表する国際シンポジウムを開催し、またその結果を刊行する。これにより実践的なモデルの完成を目指す。研究の進捗状況は、主体となる研究組織である国際マネジメント研究科が毎年実施する外部評価によって検証される。この評価の前提として、プロジェクト内で研究進捗状況に関するまとめと自己評価を行う。

（２）研究組織

産学連携、国際連携の研究推進をするために、本研究科の教員 5 名、企業研究機関（東芝ソリューション社）から 2 名、国際研究機関（シンガポールマネジメント大学情報システム学部）から 1 名の 8 名により研究プロジェクトを構成している。

すべての研究計画は、研究運営委員会を組織し、定例的に開催されるそこでの意思決定により運用されている。研究代表者（伊藤）は全体の統括をし、各研究者は、全体の設計

と評価（井田)、講義コンテンツの開発(堀内)、プロジェクト型コンテンツの開発(岩井)、システム維持機能の開発（大島)、ケース型コンテンツの開発（岩田、平井)、教育モデルの国際的評価（Miller)をそれぞれ担当し、責任体制をとっている。同時に、「インターネットビジネス」、「IT ソリューション」、「インターネットビジネスプロジェクト（Phase1～Phase4)」の 3 科目を中核科目とし、このまわりに「データベース」(2006 年度より「ビジネスデータ分析」に改称)「サーバ構築法」(2006 年度より「分散システム設計」に改称)「Web 戦略」その他の関連科目を有機的に配置するコースワークの完成を目標として、授業担当者会により実際の適用にかかわる問題を議論し、自己評価をしている。とくに中核の 3 科目は、研究科長である研究代表者を除く本研究科専任の 4 名の研究員が共同担当し、原則としてすべての講義時間に参加することにより、研究の評価と実践を、研究の連携と相互評価に生かしている。研究代表者である研究科長の定年による研究科長交代があり、新研究科長高橋文郎教授が研究代表者となった。しかし、プロジェクト全体の推進は井田教授が継続して担当した。最終年度において、堀内、大島の 2 名が新学部発足に伴い転出し、かわりに当該分野に関しては実務家で現役の経営者を特任教授として迎えたので、それについてメンバの交代をおこなった。ただし、最終年であり、分担には影響せず、最終のとりまとめの機能についての引継ぎをおこなった。

（３）研究施設・設備等

研究の実施に沿って、5 号館 530 教室にインターネットビジネス教育装置を整備した。530 室の面積は 76 ㎡であり、利用者数としては、8 名の研究者と対象科目受講生と入室資格者約 200 名が利用している。

施設の設計そのものが研究対象であり、当初の予定通り、最大 6 名を 1 グループとしたグループプロジェクト型の学習形式にふさわしいラボレイアウトとして、最大 24 名受講可能な 4 グループ構成のための実験卓４つと教卓を置くことをまず基本方針とした。各グループでの自主的な作業を可能にするために、各実験卓には各自が持ち込むノート PC 用の電源とインターネット接続コンセントおよび 50 インチプラズマディスプレイをそれぞれ配置した。ディスプレイには専用の PC を各 1 台配置した。仕切りをおいたサーバ室を付属させ、初年度から設計を開始し、すぐに実験的運用をはじめ、Web サーバのコンテンツとして、講義コンテンツ・ケース型コンテンツの開発をおこない、その内容の継続的改訂により、研究成果の蓄積と公開に資している。

また、この施設のセキュア利用を円滑化するために、学生証（IC タグ）によるドアの開閉管理を第 2 年次より導入している。あわせて、この管理を「インターネットビジネスプロジェクト Phase4」において、実験教材としても利用している。

この施設は、核となる「インターネットビジネスプロジェクト」科目を中心に、週 7 科目において利用されている。また、学生は実験フォローアップと研究のために、このラボ設備を空き時間に利用している。平成 18 年度春の実績においても、週日の５０％以上の時

間が実際の利用に付されており、すでに高い利用率にあると考えられる。

教育用コンテンツの利用が活発になるにつれ、オープン利用の自習設備の拡充がもとめられ、5 号館 557 室のコンテンツ閲覧機能を充実させることとなった。2006 年度、2007 年度に基本的な具備、2008 年度にその補充をおこない、18 名が同時利用できるようにした。この部屋もドアの開閉管理の対象としてあり、学生はその空き時間にコンテンツ閲覧をしやすくなった。

（4）研究成果の概要

初年度である平成 16 年度は基本設備の導入、改造工事を中心として、インターネットビジネス教育の実施のための基本的な機構の設計、施工、基礎調査研究をおこなった。まず、5 号館 530 教室にインターネットビジネス教育装置を整備した。具体的には、仮想的にリアルタイムの競争をシミュレートするためのラボのレイアウトを開発し、テストした。最大 6 名を 1 グループとしたグループプロジェクト型の学習形式がふさわしいものとし、その試行をめざし、それに合う最適なラボレイアウトを決定した。コンテンツ側面としては、多国籍環境にある仮想市場を規定し、そこにある企業が具体的にもつべき機能、サーバなどの要件を洗い出した。教育コンテンツの開発については、半期の「インターネットビジネス」科目を新設し、カリキュラムの設定と試行を通して、基本要件について研究した。ラボの設計に関しては、530 のテスト利用をおこない、試行錯誤と評価をおこない、年度末においてひとつの設計を帰結させ、実施した。ホームページについては、その設計と開発を開始し、テスト版をたちあげた。講義コンテンツに関しては、4 フェーズによるプロジェクト学習科目の設計を開始した。これがのちに、第 3 年次に「インターネットビジネスプロジェクト」科目カリキュラムとして中間的にまとめられた。

第 2 年度である平成 17 年度は、パソコンの導入とパイロットモデルテストを行なった。パイロットモデルとなる教育コースウェアとして、対象となる仮想企業の設計をし、それに対する財務データ、売り上げデータ、調達データなどの基礎データコンテンツの開発をおこなった。また、530 教室に整備したインターネットビジネスラボに、パソコンを配置した。教育コンテンツに関しては、通年のグローバルアクションラーニング科目として、「インターネットビジネスプロジェクト」を開講した。「インターネットビジネス」を出発点となる科目として再整備し、これにより、「インターネットビジネス」から「インターネットビジネスプロジェクト」にいたるコースワークとして本研究科の OIS 分野のカリキュラム体系の整備に着手し、このことをとおして、研究の自己評価をした。グループプロジェクト型の学習形式を両科目で進めた。また、講義コンテンツのソフトウェア開発およびパイロットモデルのテストをおこなった。これらの中で、ラボレイアウトの改善点が発見され、年度末までに改良をおこなった。

教材コンテンツとしては、WebEDI を中心とする B2B を中核とし、企業分析から TOBE システムの設計と提案、また、直販を想定した B2C サイトの設計・開発競争を導入した。前

者をインターネットビジネスプロジェクト Phase3、後者をインターネットビジネスプロジェクト Phase2 に採用することができている。

国際ワークショップを 2005 年 11 月 1 日（午前 10 時から午後 5 時）に開催して、中間的な成果の公開と研究の進展のための知見を得た。このワークショップは当該研究者だけでなく、他の研究者にも公開された。出席は 25 名である。うち外部者は 10 名。シンガポールマネジメント大学の Miller 教授（共同研究者）が基調講演をおこない、IT を活用して教育をおこなう仕組みに関しての基本方針ならびに現在の取り組みについて紹介がなされた。つづけて、中間報告として、井田、岩井、大島および岩田から報告がなされた。

ホームページは初年度のテスト版から継続的に発展させ、実際に使用する講義コンテンツを含む第 2 版を開設した。e-Learning コンテンツを配置し、講義と実習に利用した。

開発したコンテンツは実際のプロジェクト学習にただちに採用した。この結果を国際ワークショップにおいて討議し、基本的な設計には問題がないと結論した。これを受けて、学期終了後に部分改良にただちに着手し、2006 年 3 月まで第 2 年次研究分を継続した。

ラボレイアウトについては、基本的な設計は可としたが、前年度に設計した配置では、グループごとの学習に重点を置き、全体に対する指示・講義に対するスクリーンがなかった。これが不便であることがわかったので、大型（100 インチ）スクリーンを配置し、グループごとのテーブルの配置も、個別の作業および全体に対する指示・講義の両者に便利と思われる形式に変更することを決定し、年度末までに実施した。

研究の遂行にあたっては、月一度の研究会、集中時には毎週の打ち合わせをおき、目標とした１)最適ラボレイアウト策定、２）最適なプロジェクト学習形式とそのコンテンツの開発、３）将来の可能な方式の開発、について実質的・活発な討議をおこなった。

平成 18 年度は、コンテンツ開発と試験運用が主な課題である。この年度の主要な成果は次の通りである。１）「IT ソリューション」を開講した。２）コンテンツの改定をおこなった。３）「インターネットビジネスプロジェクト」の科目構成内容の改訂をおこなって、4 フェーズ構成とした。４）B2C サイトユーザビリティ評価のソフトウェアの開発をおこなった。５）SCM の基礎のための e-Learning 教材を開発した。６）国際会議を準備し、国際会議プログラム概要の確定、論文募集、開催地の選定とさらなる国際共同実験をおこなった。７）第 2 フェーズのためのソフトウェアパイロットモデルを開発した。８）第 3 フェーズにおける市場競争ゲームの設計をおこなった。９）ホームページの更新を年度末まで実施した。

第三年次である平成 18 年すなわち 2006 年度は、当初計画をさらに進めるものとして、国際的な価値の追求と国際的な普及に重点をおくことを決定した。これは各国の状況の進歩に対する討論と判断を踏まえてのことである。各国の経営管理関連の学部、ビジネススクールでの方向、そして、現在進行中の大学新設での状況をふまえてのことである。たとえば、ベトナムでは、自由経済と市場経済への移行を着実に推進するべく、ビジネススクールならびに資本主義型の経営管理のコースを持った大学の新設を推進する段階にきてい

る。こうしたアジア諸国での動きでは、IT 単独ではなく、General Management、Marketing、Finance、Accounting の教育にインターネットおよび IT を活かすことが重視されている。こうした流れの中にあって、かつ、それらを先導できる研究としてもこの研究は大きく役立てるという判断がある。

これらの証明のためにも、国際会議はアジア内の他国でおこなうことの重要性を認識し、討議の結果、マレーシアのマルチメディア大学（ABEST21 の同盟校）において海外開催することを決定し、先方の了解も得られ、現在、2007 年 2 月 27 日および 28 日に当地で開催することを決定し、それにそって 2006 年 7 月から会議の枠組みの立案にはじまり、開催場所の選択、会議運営のための委員会構成の決定、予算枠組みの立案、論文募集スケジュール、会議専用ホームページの立案と政策など、さまざまな準備を実施した。10 月には開催候補地の最終決定をおこなった。マルチメディア大学との共催とすることで、研究の輪を広げていく方針をとった。この会議は 200 名規模の会議と広い国際的な範囲での論文募集を予定し、プログラム委員会を組織し、論文の査読をおこなうこととした。また、学生の投稿を奨励するために Student Session をその中に用意し、さまざまなレベルでの研究者交流ができるように準備を進めた。この成果は、報告集の刊行、ホームページでの公開により広く一般へのアピールをおこなうように設定された。論文査読は電子メールおよびシンガポールマネジメント大学での集中審査（2006 年 12 月）によりおこなった。論文投稿の総数は、47 通である。この査読により、32 通の選択を決定した。

最終的なこの国際会議の概要は次のとおりである。iBiZ2007 (International Conference on Internet-Business: Trends, Systems, and Education)をタイトルとし、本研究科の主催、ローカルアレンジとしてマルチメディア大学を、また、共催共同校として、本研究の研究分担者である Steve Miller 教授が所属するシンガポールマネジメント大学が加わり 3 校の共同の形をとった。この背景には ABEST21 の枠組みが有効に機能しており、ABEST21 の後援を仰いだ。

出席者は約 100 名、オープニングセレモニには、ポートディクソンのある Negeri Sembilan 州の州知事の列席とスピーチを得た。キーノートスピーチには Malaysian Communication and Multimedia Commission (MCMC)のチェアマンである YBhg. Datuk Dr. Halim Shafie のスピーチを得て、マレーシアにおける ICT 振興と当該領域のアジア展開に関する格調ある導入がなされた。また、ゲストスピーカとして、Dr. Fadhlullah Suhaimi Abd Malek (General Manager、Corporate Strategy Telekom Malaysia)、Suhaimi Nordin 氏（Head of Cluster-Internet-based Business, Multimedia Development Corporation (MDeC)）、Dr. Alvin Mah（Head of Company, Dagang Net Commerce Sdn Bhd）の 3 名の講演を得た。

プログラム委員会を組織し、論文発表のセッションに対しては、ピアレビューによる査読をおこなった。投稿数は 47 件で、そのうち 32 件を採択し、うち 2 件をメイン会場での発表とし、他の 30 件は 3 会場を用いたパラレルセッションによりおこなった。具体的なプ

ログラムは２．２節にあるので、参照されたい。また、実行にあたっての委員会構成等はあわせて２．３節にまとめてある。

プログラムの大枠としては、全体を 7 セッションとした。

第１セッションでは、課題となるインターネットビジネスについての解題を本プロジェクトの成果として、プロジェクト研究メンバである井田昌之が発表した。

第２セッションでは、本プロジェクトの中心的な中間報告として、教育システムモデルの具体的な構築進行状況を、その実現形態である「インターネットビジネスプロジェクト」通年科目の説明を通して、教員である研究者４名がその概要とその中にある４つのステージについて、どのような設定を置いているか発表した。次いで、学生 4 名が、学生から見たまとめ、意見をのべた。司会には、研究員であるシンガポールマネジメント大学 Steven Miller 教授（情報システム学部学部長）があたり、これらの発表のあとに質疑の時間をもった。活発な意見の交換がされ、大きな成果をあげることができた。特に、マレーシア等のアジアの諸国の参加者から、自分たちも参加したい、この成果を自分たちの大学で利用させてほしい、という声が複数寄せられた。

第２セッションと第３セッションの間に、ゲストスピーカ３名によりアジアならびにマレーシアにおけるインターネットビジネスの現状と今後の展望について講演があった。

第３セッションでは、査読を経て採択された論文の中から本研究プロジェクトが次年度より展開をするビヘービアターゲティングおよびインセンティブモデルについて本研究科博士課程学生より２件の発表があり、また、産業側のメンバである東芝ソリューション社の岩田氏より、産業界からみた要点と要望について発表があった。

パラレルセッション１、２、３は採択論文の発表セッションであり、小会場にわかれて発表と質疑が進められた。これらの内容は、第２部にまとめられた論文集に全体がある。

この後、クロージングセレモニをもち、全２日間の会議を終了した。

仮想市場に関しては、急速に B2C 型の仮想商店街の進展と、MMOG 型ゲームの仮想世界の発達に伴い三次元グラフィック表示を伴う仮想ショップへの指向が認められた。このため、仮想市場に関する研究の部分は三次元仮想商店街に関する研究へと焦点を絞ることとした。

第四年次の平成 19 年度すなわち 2007 年においては、当初の計画にそって、次をおこなった。1）カリキュラムの手直しと補強、2）557 室コンテンツ閲覧機能の拡充、3）ネットビジネスの進化にともなったリアルタイム仮想ショップ提示新方式の検討と実験、４）プロジェクト学習型キャプストン科目として「ビジネスプランニング」科目の新設準備、５）ネットビジネスの倫理面に関する国際ワークショップの実施、およびこれらの総括的な課題に関連した諸手順である。

この中で国際ワークショップについて特記する。このワークショップの目的として、近年多発しているネットビジネスに関連する倫理側面の問題について国際的な専門家による会議を開くことにより知見の交流と共有をはかろうとしたものである。これを実現するた

めに、青山学院が加盟している国際組織 IAMSCU （International Association of Methodist-related Schools , Colleges, and Universities, Nashville TN, USA）および IAMSCU の南米における協力団体である COGEIME の 3 組織により組織することとし、開催地もホノルルとした。これは COGEIME の主要メンバである Dr.Amos Nascimento がサバティカルでシアトルのワシントン大学に滞在していること、アジアからの参加者への便宜を考慮したことによる。時期は、討議の結果、2008 年 2 月 10 日および 11 日が選ばれ、立案と計画が推進され、予定のとおり開催された。ワークショップタイトルは iBiZ2008 Workshop for Net Business Ethics (International Workshop on "Global Technology, Ethics, and Social Responsibility" : An Agenda for Interdisciplinary and International Research on Borderless Net Business 2008)とした。出席者は招待制とし、21 名が 8 か国より、16 の論文発表をもった。この論文集は、オープンリサーチセンタプロジェクトのホームページである http://www.gsim.aoyama.ac.jp/ORC/ に掲載され、自由に閲覧できるようになっている。主な発表者の所属は、当研究科に加えて、Methodist University of Sao Paulo (Brasil), Methodist University of Piracicaba (Brasil), University of Waterloo (Canada), Martin Methodist College (USA), U.Washington 'USA), Fraunhofer Institute for Interfacial Engineering and Biotechnology (Stuttgart, Germany), Ewha University (Korea)などである。また、研究科在学の学生 1 名よりの発表も含めた。その中で、第一日には仮想商店街の今後のあり方として注目される三次元グラフィック表示によるテストについて、Blue Mars のデモを受け、それを巡って議論をおこなった。ネットビジネス倫理に関しては、サービス供給側、消費者、そしてインフラ供給者のそれぞれに対して、ビジネスセキュリティと消費者のプライバシ、企業の社会的責任、技術的可能性に関して、より一層の考慮が必要であることを共通認識とした。

最終年度である平成 20 年すなわち 2008 年では、研究の最終とりまとめをおこなっている。これらの総括として、国際シンポジウム（iBiZ2009）を当研究科で 2009 年 1 月 30 日、31 日に開催した。その詳細は第 3 部にまとめている。出席者は 55 名である。米国、シンガポール等からの招待講演と学生・卒業生によるその効果に関するパネル討論を含めた。また、継続してきた研究の成果として、仮想商店街と仮想ショップに関する理論形成と実験についてはその形をみることができるようになってきたので、iBiZ2009 シンポジウムにおいて最初の公開をした。以後研究を継続する体制を予定しており、2 月にはいり、3 月 10 日 11 日にニューヨークで開かれる Engage Expo（元の名称は Virtual World 2009）に参考出品し、デモをすることが可能となったので、これによって世界にアピールし、またさまざまな意見を得て、研究の継続的な遂行に当たる予定である。さらに、学会発表へと向かいたい。

＜優れた成果があがった点＞

インターネットビジネスに関する教育システムモデルの開発、産学連携、国際連携による研究体制、講義、ケース、プロジェクトの三形態のバランスをとる学習方式の開発を目指

す、という本研究の基本的な 3 要素はそのまま主要な特徴を形成していると考える。また、具体的なケースコンテンツの検討と実装により、そのまま教育に活用できることを意図している。仮想国際市場を構築し、それに対応するインターネット諸技術のハンズオンおよび応用力の養成、ケース学習を含んだ教育モデル、ホームページの開設と公開、研究成果のタイムリーな発信、国際会議の実施などが総合的に機能している。

また、これを研究者だけに限らず、広く企業人や一般社会人に公開し、本分野に対する一般の理解増進を図る。研究成果の幅広い公開にも留意している。

5 年間の成果の評価は、教育という課題の成果は即座には現れないので、ここで十分にはできないが、ビジネススクールにおける、インターネット＋ビジネス＋教育という枠組みとしては一定の成果があがったと評価したい。

まず、OIS トラック、すなわちオペレーションズマネジメントと情報システムの協調の位置をもつトラックの形成とそれによる当該分野の教育に一石を投じたものと考えている。トラックの選択者数は必ずしも多いものではなかったが、この一連のカリキュラムの受講により、起業を決意したものが複数、同一企業内において、インターネットビジネスの子会社の社長になったもの、この分野の担当としてメーカから官庁への出向となったもの、そして多数の IT/情報関連部署において､今なお相互に連絡をとりあっている修了生がいる。これらは、独自に開発した教育プログラム体系のスタートとしては評価できるものと考えている。

また、結果として 2 年目より毎年国際会議を持つことができた。参加者の国数は 11 カ国となる。国際的な認知、当該研究分野において決して大きな成果を出せたとはいえないが、その端緒を開いたと評価できる。

開発研究の側面としては、最終年度になってそれまでの蓄積が姿をあらわしはじめ、仮想ショップに関する基盤実験が成功しはじめている。博士課程の学生による研究が開始され、また、分担者の研究においても、新機軸が認められるようになってきている。

＜問題点＞

グローバルスタンダードを主眼に入れた本研究での手法は、国内産業の動的な不安定性のある現状に対して、それを斟酌して反映させることも肝要であるが、実社会あるいは学術界での動向に左右される懸念がある。最初の 3 年間ではこの葛藤の中で、一定の成果を得ることができたが、確固たる方向性を堅持しながらも、産業界のダイナミズムに対応して今後の研究を拡充させるには、国内学会への働きかけ、国際会議、ワークショップ等の開催などによる、他大学・研究機関などとの一層の交流を進めて、研究成果のタイムリーな発信を強めたい。また、教育効果の測定においては、国内および国際的な産業の動向に影響を受ける部分があり、それにあわせて微調整はおこなってきた。しかし、このため、経年の比較をするには同一の軸とすることが困難となり、効果測定については難しさをも

たらすこととなった。また、2004 年よりの講義演習科目の新設を伴っておこなったので、研究科のもつ付帯事情および学外・受験者へのアピールの重点のかけかたの試行錯誤によって履修者数の予測がみこめず、そこに不安定さがあった。執行部の経営的判断によって試行が影響を受ける部分もあった。それはビジネススクール全体の生き残りのための全体戦略に関することでもあるので、可として受け入れ、それに対しては最大限に影響を受けないように配慮して研究を進めた。履修者数のデータについては次に示す。

	在籍学生数	インターネットビジネスプロジェクト履修者数
2004 年度	173	科目未設置（2005 年より新設）
2005 年度	227	14
2006 年度	195	7
2007 年度	190	13
2008 年度	205	5
2009 年度	未確定（ほぼ同数）	7 （第一次募集現在）

（なお、在籍学生の約半数が履修可能対象者である）

＜評価体制＞

研究委員会を組織し、定常的に自己評価を進めた。授業担当者はさらに担当者会を形成し、定常的に内容の検討をおこなった。また、年に一度開催される GSIM の外部評価をおこなう評議委員会により検証を進めている。

この体制のもとに、オペレーションズと情報システム科目群をインターネットビジネスを中核とした科目群に 2005 年より再編成した。さらに、2006 年度からは、「IT ソリューション」科目を新設し、基礎科目となるインターネットビジネスを確立させた。あわせて、OIS の全体科目群のコースワーク型の配置を達成し教育内容の充実をし、関連するマネジメント、マーケティング部門等に配置された科目との有機的連携をはかっている。

これらの体制により、このプロジェクトの評価体制は維持され、それに基づいて、実際の教育と研究に役立てることで、ステークホルダによる評価を受けている。

学生による評価は、授業評価ならびに評議員会に際しての学生からの意見聴取などによっておこなう体制をもって推進してきた。

＜研究期間終了後の展望＞

研究期間終了後は、当該研究設備等はそのまま学生用のオープン利用のコンテンツ閲覧機能、インターネットビジネスプロジェクト科目用の実験室ならびに関連する教科目における講義・演習への部屋として継続して利用できるので、最大限に活用する方針である。

また、仮想市場に関する研究としては、一区切りをつけ、また新たな吟味をおこなって、再出発する予定である。

＜研究成果の副次的効果＞

コースワーク制を意識した教育モデルの開発は、米国を中心として進んでいる関連分野の大学院教育体系に対して新しいアジア型の教育モデルの開発につながるといえる。これは企業内での再教育プログラムにおいても重要なものであり、短期集中型の教育コース新設への展開要望がある。また、対象となる領域は、現在のアジア経済共同体の中心となるテーマのひとつである域内の産業振興とそれに必要な人材育成のモデルとして着目される段階にある。これによりアジアにおけるインターネットビジネスの発展とアジア地域の経済発展への貢献を目指している。

当該分野の進展とともに、よりいっそうの競争ゲーム型教育ツール開発への期待が明らかとなってきた。特に、初年度のラボの設置と基本設計、2 年度以降、現在までの進行により、当初予定していたコンテンツだけにとどまらず、動的な競争ゲームの可能性が見えてきた。基本的なアイデアは、ビジネスゲームのような複数の仮想企業が国際仮想市場において競争する形態を、インターネットビジネスにも導入しようとするものである。これを最終年度までにまとめようと鋭意研究を継続している。

研究期間終了後、この研究施設は当該講義・実習科目において利用され、また学生の当該分野におけるラボとしての機能を継続することが予定されている。

インターネットビジネス分野における教育ツールの拡充と発展には、コンテンツの動的変更・拡充と管理技術そのものも重要な課題であるが、それらをふまえて、コンテンツを整備・開発していく。

インターネットビジネスに関する教育システムモデルの開発、産学連携、国際連携による研究体制、講義、ケース、プロジェクトの三形態のバランスをとる学習方式の開発を目指す、という本研究の基本的な 3 要素を継続的に発展させて、研究成果としていく。仮想国際市場のみならず、実際の国際市場において、職能を発揮する有為な人材が、インターネット諸技術のハンズオンおよび応用力を養成し、ケース学習を含んだ教育モデルがグローバルに役立つことが期待される。

第 2 章　国際会議報告

2.1 iBiZ2008 International Workshop for Net Business Ethics 概要

This workshop is part of a series of international conferences organized by the Open Research Center project at the Graduate School of International Management (GSIM) of the Aoyama Gakuin University, Japan. As the title indicates, this is a workshop with selected international experts, and is aimed at being a starting point to discuss and share the concept for net business ethics. The organizers realize that there is no standard understanding of the net business ethics concept yet, therefore this workshop will serve to bring this topic to the attention of international community.

The center of our concern is Information Technology, especially the Internet. The use of the Internet undoubtedly provides us with a wonderful new horizon for global communication and global collaboration. We now live in a virtually borderless world, and businesses make use of the new possibilities provided by the internet. However, we the internet also brings about a series of problems that require further reflections on borderless ethics and responsibility for businesses. The national law enforcement of each nation is different and we have no international common understanding yet to regulate the use of the Internet. For our daily life, from children to senior citizens, from churches to commercial companies, from university research to hospitals, from government to individuals, few areas can be kept going without the use of the Internet. A communication problem in one part of the world, the lack of global standards, the manipulation of data, the lack of privacy, and other issues can have a tremendous impact on society. What is our social responsibility in the context of these challenges? iBiZ2008, an international workshop for net business ethics aims at discussing the theme ″Global Technology, Ethics, and Social Responsibility: An Agenda for Interdisciplinary and International Research on Borderless Net Business″ as a way of addressing these questions. The workshop will take advantage of the global framework provided by the International Association of Methodist-related Schools, Colleges, and Universities (IAMSCU), an organization that congregates more than 750 institutions in 70 countries, such as Boston University and Duke University (United States), Aoyama Gakuin University and Kwansey Gakuin University (Japan), Universidade Metodista de Piracicaba e Universidade Metodista de San Paulo (Brazil), Ewha University (Korea), Isabella Thoburn College (India), Africa University (Zymbabwe), University of Winnipeg (Canada) and Westminster School (Australia), and many others. The workshop also has the support of the the General Board of Higher Education and Ministry (GBHEM)

in the United States and the Instituto Metodista de Servicos Educacionais (COGEIME) in Brazil. Thus, it is an opportunity to foster new types of collaborations among the IAMSCU member educational institutions. The workshop will include speakers and participants from multiple continents, especially from countries such as the United States, Brazil, and Japan, Germany, Zymbabwe, Canada, India, and many others. With this unique articulation of international researchers, global institutions, and common concerns with questions related to technology, Christian ethics, and social responsibility, the participants will join together and not only discuss recent international research on borderless net business, but also compile an agenda for our future activities and reflect on how the biblical passages mentioned at the beginning can be reinterpreted in the 21st century.

2.2 iBiZ2008 International Workshop for Net Business Ethics Program

Feb 10, 2008

Day One: "Borderless Technologies: The challenge of the Internet"

3:00pm	Welcome Address
3:30pm	Introduction Lecture - Asian and Global Perspectives
4:15pm	Keynote Address - North America and the Technology Community
5:00pm	Break
5:15pm	Keynotes for Regional characteristics Keynote Address - Information Technology for Africa Keynote Address - Research and Technology in Latin America
6:45pm	Break
7:00-9:00pm	Dinner and Roundtable Discussion: "Questions regarding International Borderless Research"

Feb 11, 2008

Day Two: "Borderless Business: Net-Business Ethics and Responsibility"

9:00am	Keynote Address - Ethical and Theological Perspectives
0:00am	Presentations on Borderless Business Address - Technology in Asia: The Perspective of Business Address - Information Technology in Latin America Address - A Framework for Business Ethics
noon	Lunch

Presentations on Theology, Responsibility and Ethics

1:00pm Address - Biotechnology & Environmental Responsibility: European View
Address - Ethics and Theology from an Asian Perspective
Address - Borderless Business, Ethics, and Social Responsibility

3:00pm break

3:15pm Panel Discussion: An Agenda for Interdisciplinary and International Research on Borderless Net Business Ethics

4:30pm Concluding Remarks: "What should we do for the future as world leaders in a borderless world?"

5:00pm Conclusion of Workshop

Organized by

Graduate School of International Management, Aoyama Gakuin University, Japan
GBHEM - General Board of Higher Education and Ministry, United States
COGEIME - Instituto Metodista de Serviços Educacionais, Brazil
IAMSCU - International Association of Methodist Schools, Colleges and Universities

Sponsored by

The Open Research Center Project, GSIM, Aoyama Gakuin University
with a grant from Ministry of Education, Japan

Organization

Workshop Chair:
Dr. Masayuki Ida
Program Committee:
Dr. Masayuki Ida
Dr. Wanda Bigham
Dr. Amos Nascimento
Local Chair:
Dr. Amos Nascimento

2.3　iBiZ2008 シンポジウム 概要

文部科学省より、平成１６年度～平成２０年度「私立大学学術研究高度化推進事業」（オープン・リサーチ・センター整備事業）の助成を受け、国際マネジメント研究科では、「アジアにおけるインターネットビジネス教育システムモデルの国際開発研究」の研究を 5 年間推進し、対象領域における教育内容とそれに必要な教育システムモデルならびに当該分野における研究の進展に寄与してきた。国際会議としても、マレーシア開催の iBiZ2007 により広くアジアでのインターネットビジネス領域での研究論文発表と交流をおこない（６カ国より約１００名の参加と３２通の論文採択)、米国開催の iBiZ2008 によりネットビジネスにおける倫理側面のワークショップを開催した（８カ国２１名の参加)。ここに iBiZ2009 を当研究科において開催し、ここまでの知見を公開し、今後の当該分野の発展を祈り、オープンリサーチセンター整備事業の精神に則って、最終年度を閉じるにあたって、公開のシンポジウムを開催することとした。この研究プロジェクトのホームページは、http://www.gsim.aoyama.ac.jp/ORC/ にある。

2.4　iBiZ2009 シンポジウム プログラム

１月３０日（金）

１４：００　開会

挨拶　　高橋文郎（青山学院大学大学院国際マネジメント研究科研究科長）

１４：１５　セッション１　オープンリサーチセンター研究概要総括

１．全体について　　井田昌之（青山学院大学大学院国際マネジメント研究科教授）

研究成果について

導入設備等について

教育カリキュラム編成について

仮想商店街におけるショッピングに関する研究成果について

２．関連発表

・「ビジネスプラニング講座（２００８年度新設）での理解促進ツール」

前田昇（青山学院大学大学院国際マネジメント研究科教授）

・「ディスカッション主体の教育形態での教室レイアウト」

中野勉（青山学院大学大学院国際マネジメント研究科教授）

・「コンテンツ閲覧設備の整備」

森田充（青山学院大学大学院国際マネジメント研究科助教）

１５：４５　　セッション２　招待講演

“Methodist-related Higher Education: Making a Difference, ONE STUDENT AT A TIME”

Dr. Wanda D. Bigham, (Division of Higher Education, General Board of Higher Education and Ministry, Executive Secretary of IAMSCU)

１６：３０　　セッション３　講演

「デジタル情報革命と世界経済危機～経済危機下におけるビジネススクールへの期待」

藤原洋（青山学院大学大学院国際マネジメント研究科特任教授）

１８：３０～２０：００　レセプション　　青学会館２F　「シャロン」

1月３１日（土）

９：３０　セッション４　講演

1．”An MBA Alternative for Mid-Career Software Professionals”

Ray Bareiss (Professor, Director of Educational Programs, Carnegie Mellon Silicon Valley)

2．”Learning Experiences and Outcomes for a Business Information Systems Curriculum”

Steve Miller (Dean, Sch.of IS, Singapore Management University)

3．”Teaching Business in the Small Liberal Arts College in the United States”

Ted Brown (PhD, President, Martin Methodist College, Pulaski, Tennessee)

１２：００　昼食　青学会館　ホーリー館３F　「大空」

１３：３０　セッション５　パネル討論

「インターネットビジネス教育システムモデルの今後に期待するもの」

パネリスト：インターネットビジネスプロジェクト修了生４名

司会：岩井千明（青山学院大学大学院国際マネジメント研究科教授）

１５：３０　閉会

第2部　International Workshop for Net Business Ethics (iBiZ2008)

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運天左久子
株式会社ユーステーション

WWW, $$$, Education and Ethics: a Brazilian Perspective

Daví Nelson Betts, D.Eng
Director of Technology and Information
Methodist University of São Paulo

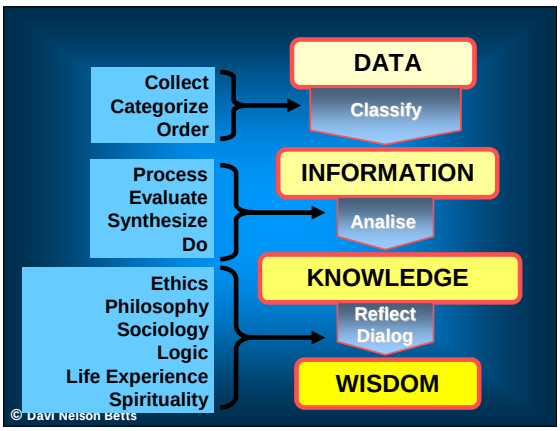
Abstract

Educational institutions in the twenty first century are facing many new challenges resulting from the dramatic paradigm shifts that the digital revolution is bringing to the information and communication technologies. The advent of this revolution has made possible the globalization of the educational market as well as challenge traditional teaching-learning strategies: close down the classroom and logon to web 2.0, or will it be web 3.0? The ethical issues these scenarios raise range from information rights, to education as a product for sale, to national sovereignty. The Brazilian scenario will be used as a basic reference.

Introduction

The ability to convert images, sounds, data, movement, into bits (zero's and one's), pump these bits through wires, radio waves, fiber optic cables, laser and infrared beams, and then convert them back into the "material" world has transformed business, entertainment, communication, and the lifestyles of a significant portion of the inhabitants of the world. This digital revolution, correctly called a revolution, has forged the "marriage" of computing and telecommunications bringing to life the Information Society which is quickly evolving into the Knowledge Society. The ethical challenges rising from this rapid transformation of the world are as diverse as the digital gadgets available on the market. While technology and education open a broad spectrum of issues with underlying ethical implications for debate, this essay will focus on two basic points: globalization of education and the challenges that the ICT (Information and Communications Technologies) induced paradigm shifts are bringing to how educational institutions accomplish their mission, educationally and administratively.

"Unite the pair so long disjoin'd, Knowledge and vital piety; Learning and holiness combined. And truth, and love let all men see. – Come, Father, Son, and Holy Ghost". The words of this hymn were written by Charles Wesley for the dedication of the Kingswood School, and reveals Wesley´s vision for education. The figure below attempts to combine the classical view of the knowledge hierarchy and Wesley's vision.



Scenarios

The Brazilian hypermarkets (a mix of large supermarkets and Wal-Mart style stores) are the largest resellers of computer products in Brazil. A computer can be "purchased in up to 24 easy monthly installments". Computers have become the latest consumer fad. Notebook sales are up 200% and LCD monitors 180% with respect to the year before.

Online purchases area growing at a rate of 44% a year. Cellular phones now outnumber fixed phone lines with two units for every three persons. Brazilian banking technology is among the most advanced in the world and has had instant transactions from ATMs for many years.

Globalization of education

The theme of globalization of education, with the advent of the Internet, raises issues of cultural imperialism, international labor force segmentation (by curriculum control and management), the uncontrollable international flow of money and ultimately the sovereignty of nations.

Brazilian universities going to the stock market with IPOs

Globalization has also enhanced a consumer market vision of education, with degrees managed as products to be sold: a little explored market to be conquered. Several Brazilian higher education institutions made IPOs in the last quarter of 2007, raising over half a billion dollars. Private universities in Brazil account for 75% of the higher education student body.

Acquisitions by foreign capital

Combined with the above situation, several international educational corporations (ie, Whitney, Laureate, Apollo, De Vry) are investing in Brazil, purchasing universities and colleges. According to Hoper Educacional, higher education in Brazil in the next years will probably be controlled by 10 or 12 large national and international corporations. This is not a mere projection, but already an aggressive commercial enterprise underway. The surviving institutions should be small, specialized and segment oriented.

The challenge to church-related and community educational institutions

This poses a great challenge for the church-related and community institutions. How will these institutions accomplish their religious and educational missions in this heavily commercial environment? They will have to compete with low tuition fees offered by the large educational groups. Cutting costs brings to the arena the issue of quality and relevance of the education offered. This will raise ethical questions for which a clear answer may not always be that evident. Questions such as: What is quality education? Are there degrees of quality? Where do the institutions establish their limits for quality? Can there be compromise on the issue of quality and relevance? Undoubtedly difficult decisions will have to be made and will have to be confronted with the Christian ethical values professed. This is no easy task. It will require a deep understanding of our world and our mission as Christian educational institutions.

Distance learning on a global scale

Distance learning should grow in Brazil at a rate of 40% a year through 2010 according to the Brazilian Distance Education Association. Reaching abroad for Portuguese-speaking students is in the plans of several Brazilian universities.

Digital campus management systems

Academic Management Systems such as Peoplesoft, and more recently SAP and Sungard are making a strong thrust to enter the Brazilian market competing with national products. They proclaim to bring the "best practices and standards" from the first world to the developing nations. But are they the best practices for the local reality? Many of these systems are made available in the outsourcing mode, and even in the new SaaS (Software as a Service) trend. Confidentiality and

security are standard parts of the contracts, but the simple fact that hosting may be in one country and the backup site in a yet another means that the contracting institution may not be able to follow the political environment adequately in these countries and suddenly find that their legislation has changed, thus creating breaches in the confidentiality and security contracted. Once the breach occurs, the resulting damage is done. A lawsuit may not be able to truly compensate for the damage. It may appear to be a paranoid notion, but recent changes in security laws in several countries raise the issue. It is now public that during the 1960s and 70s, some military regimes in South America exchanged confidential information which resulted in the "disappearance" of opposition leaders.

Educational content offered on a global scale.

Publishing houses, such as Pearsons and Wiley are digitizing their publications with integration to LMS systems. Primarily this integration is with major commercial e-learning platforms such as Blackboard and WebCT. The trend is to have global e-learning systems which can integrate with global publishing houses. This can lead to uniform content and standard learning processes globally, which raises serious questions about the future of local culture and values, indigenous knowledge and national identity, as well as issues of accessibility such as costs, language and technology availability.

The issue of copyright infringements and patents

Some very immediate issues that educational institutions are dealing with are the arena of copyright infringements, patents and academic access to information. The reality of content control and the legal attempts to force campuses to implement copyright infringement controls is in direct confrontation with the issue of free flow of information and the alternative presented by the Digital Commons proposal. For many institutions a significant source of income are patents, which derive from the concept of knowledge as private property in confrontation that knowledge belongs to humanity. Access to information is another challenge. The Brazilian government spends approximately US$ 35 million to fund a knowledge portal (Portal Periódicos/Capes), which provides access to worldwide scientific periodical databases. However, to have free access to this portal, the institutions must have at least one high rated graduate program. This brings back the issue of quality versus costs for our institutions.

Paradigm Shift 2.0

Willingness to close the doors of the traditional classroom and grasping the learning styles of the Net generation has been no easy task. Providing an effective learning environment for the Net 2.0 generation is a whole new challenge. They bring a new set of learning skills and abilities. Their brains have a different cognitive framework, simply put: they learn differently from previous generations.

The Net 2.0 school with have to be able to handle virtual reality, offer "intelligent" search engines, capable of instant response, establishing multitask and collaboration environments. Much of this is taking place outside the boundaries of the institutionalized educational organization in an apparent out of control chaos, at least for some academic administrators and faculty. Issues such as: how to assess student development and knowledge acquired? Taking this questioning to the level of wisdom, the "learning to be" makes the challenge even greater. Content probably will not be in a text book, but from an Open Education source, Wikipedia, Second Life or similar environments. Physical distances will be irrelevant and language barriers will be handled by translation engines. Technology can handle all of this with relative easy. Just look around: Google, Orkut, Second life, Facebook, MySpace, and many collaboration tools and search engines.

Can human beings handle this new world in a constructive manner? Will individuality prevail over community? Or will the community be virtual and individuality material? Will cultural, religious, language and national boundaries become irrelevant, or on the contrary, become decisive? And most importantly, are our educational institutions prepared for this reality? What values will be hallmarks of our institutions?

New ethical issues need to be addressed to offer a set of guidelines for a Net 2.0 world. Yet, old issues such as the "digital divide" are still unanswered. The Net 2.0 world is already happening and the ethical implications for society and, ultimately, for a more just and human world will need to be addressed.

About the Methodist University of São Paulo

The Mission statement of the Methodist University of São Paulo clearly dictates: *Effectively participate in forming of persons, influencing and contributing toward the improvement of the quality of life based on knowledge and ethical values.* And the Vision is: *Be an educational reference in the construction of a learning community, recognized nationally and internationally for services with quality and social relevance, with flexible, creative and innovative practices.* As a result, there has been a continuous effort in building the concept of citizenry in all aspects of institutional life.

From its inception, the Methodist University of São Paulo has been a laboratorial institution with a strong emphasis on practical learning supported by a solid theoretical foundation. This has resulted in an institution that has dealt historically with intensive use technology in its daily operations and has been faced with difficult ethical issues. In the past eight years a rapid migration from analog to an almost totally digital environment has only enhanced the awareness and urgency to find answers and guidelines.

Parallel to this technological migration, the institution almost tripled its enrollment, with approximately twenty-two thousand students in undergraduate degree programs. Over five thousand of them belong to the distance education program which began only two years ago, and are distributed among forty-two remote sites. As a result of all these factors, there has been the need for change in administrative procedures but above all a change in the pedagogical approach.

The new information, communications and learning technologies are requiring the institution to deal with issues such as digital illiteracy of the faculty and student body, blended learning, new assessment strategies, virtual learning environments and establishment of the relevant ethical standards for this new reality. In this new context, there is a basic issue that must be addressed: how to fulfill the educational mission of church related schools and be a relevant and transforming force in a constantly changing society.

Appendix

For further discussion

Below are other questions that raise ethical implications to which effort should be dedicated (adapted from chapter 12 of The Globalization of Communications, WCC and WACC, 1998).

1. In which ways does globalization of education confront our institutions with moral dilemmas about our relationships with society?
2. What are some of the specific ways in which core values such as reverence for life, global warming and environmental issues, honesty and solidarity are affected by the globalization of education?
3. Can the individual's fundamental right to education be preserved and respected in a situation in which the wealth of information, availability and access are unfairly distributed?
4. Given the enormous changes to culture and consciousness brought on by the Internet, does it make sense to confine our concept of education to its traditional form?
5. What can educational institutions do to maximize the enriching potential of globalization and minimize its impoverishing potential?
6. In which ways can educational church-related and community educational institutions help to make education accessible and counter political powerlessness in the face of the growing threat of global educational monopolies, in which control of knowledge will be concentrated in a very few hands.
7. Do the small-scale, face-to-face communication practices of indigenous cultures offer useful points of ethical reference? Can they be applied to a globalized system?

8. What guidance can our institutions give about ethics for living in a globalized, suffering and excluding society?
8. Is it possible to re-learn how to see things according to a different set of values from those suggested by a globalized educational system?
9. In what ways can globalization enhance indigenous diversity and make a positive contribution to issues of peace and justice?

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•Director of Technology and Information
Among other volunteer activities:
• Served on the Latin American Regional Executive Committee of World Association for Christian Communication
• General Secretary for Communication of the Methodist Church in Brazil
• Technology coordinator of the General Conferences of the Methodist Church in Brazil (1991, 2001 & 2006)
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Welcome
International Workshop for Net Business Ethics

Dr. Wanda D. Bigham
Assistant General Secretary for Schools, Colleges, and Universities
The General Board of Higher Education and Ministry

Good morning, ladies and gentlemen, and welcome to the International Workshop for Net Business Ethics. I represent two groups that are helping to offer this workshop, and I am happy to bring greetings on behalf of the leaders of those organizations. First, I bring you greetings from Dr. Jerome King Del Pino, General Secretary of the General Board of Higher Education and Ministry of The United Methodist Church. He and those of us who represent that board recognize the challenges we face as the users of rapidly changing communication technologies. Because there is a need both to encourage and define ethical behavior for the users and to learn to protect oneself from those who do not share the same values and practices, we are pleased to participate in this workshop.

I also bring you greetings from Dr. Rukudzo Murapa, president of the International Association of Methodist Schools, Colleges, and Universities (IAMSCU). That is the organization of all educational institutions in the world established in the Wesleyan tradition—more than 775 institutions in 67 countries. IAMSCU is a young organization that, prior to this event, has held international conferences every three or four years since its founding in 1991. With this workshop on a high-profile topic, it initiates a new means of serving various constituents of these institutions. It is our hope that this is just one of many that will be offered to our colleagues in the future. We thank Dr. Masayuki Ida and Aoyama Gakuin University for leading this workshop and Dr. Amos Nascimento who joined him as an organizer of this event.

Technology, that wonderful, challenging, ever-changing tool we now have at our disposal creates both opportunities and challenges. This workshop addresses the issues of ethics and social responsibility relating to global technology and net business, in particular.

There are many levels to consider when thinking of ethics in regard to net business. On one level, we simply know that some things are right or wrong and we respond to those as our moral and spiritual upbringing guide us to do. On another level, we are faced with entirely new practices and options that need to be evaluated carefully. They represent the "grey" areas where a careful evaluation process that involves both values and logic must guide us in uncharted waters. Finally, there are areas of social responsibility that relate more to issues of omission than of commission. As Christian educators, we must keep in mind how our decisions regarding net business may affect individuals who are less fortunate by excluding them from opportunities or unintentionally decreasing their quality of life. In the same way, we must give increasing attention to the ways our decisions may have a negative impact on this planet and on the sustainability of our environment.

So, welcome! This will be an informative and provocative workshop, and I look forward to learning with you and from you about net business ethics.

Wanda Bigham *received a B. A. in music education and higher education from Morehead State University and a PhD in higher education from the University of Kentucky. She also studied Educational Management at Harvard University. She is the former President of Huntington College, Montgomery, Ala. Previously she served as president of Marycrest College, Davenport, Iowa, and led that institution through a time of reorganization and redirection. She was also Vice-President of Development and College Relations, executive assistant to the President at Emerson College and Associate Dean of academic programs at Morehead University. Dr. Bigham has been very active as member of the American Council on Education (ACE), the American Association for Higher*

Education (AAHE) the International Association of University Presidents, the National Association of Schools and Colleges of The United Methodist Church, and the University Senate. Currently she is Assistant General Secretary of the General Board of Higher Education and Ministry – GBHEM – where she leads the Division of Higher Education and is responsible for a series of global projects involving IAMSCU and other international organizations. Wanda Bigham has received several awards for her work in the area of education.

GLOBAL PERSPECTIVES ON BUSINESS, THE INTERNET, AND ETHICS

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Abstract

This essay considers the ethical responsibilities of businesses in a world that has become globalized but remains unbalanced and faces a number of profound risks. In a world of limited resources, businesses must operate sustainably. They must respect cultural and moral diversity and protect and foster community and economic development, especially in relation to the bottom two billion humans living in poverty. Firms should adopt an asset development rather than a cost-minimization or profit-maximization approach as their business strategy. The essay considers a number of practical ways of operating to realize these objectives, with regard to matters as diverse as labour practices, security issues, transfer pricing, supplier relations, infrastructural needs, and government relations.

A number of ethical issues have been raised with respect to the uses and abuses of the ever increasing possibilities associated with the global development of the Internet. These include topics related to intellectual property rights, invasion of privacy, censorship, shaming, and basic lack of access. Other topics include issues related to the reliability of Internet information, identity theft, Internet security, Internet addiction, plagiarism, and financial scams. I will focus on these and other issue at the end of this paper. In the meantime, in order to gain greater understanding about how to think about – and act responsibly in relation to – these issues, I will initially adopt a global perspective on these matters and then see what light might be shed on these issues from a value-added model of international business ethics (1).

Living in a Globalized, Unbalanced, and Risky world

We are living in a world that is globalized, unbalanced, and risky. As we attempt to think about ethical issues associated with the Internet, it is important to reflect upon the larger global context in which we find ourselves. As we gain a sense of this larger picture, we also obtain a clearer idea both how to define and how to assign priority to the various ethical issues associated with the uses and possibilities of the Internet.

When we say that our world is now globalized, we mean to communicate several different but related ideas. We talk of globalization in order to indicate, one, how much more interconnected humans have become. This interconnection is a by-product of a number of different developments. Some of these globalizing forces, such as development of intercontinental commerce and the missionary expansion of Islam, Christianity, and Buddhism, have steadily increased over the last millennium and more. Some of the globalizing forces, such as the expansion and improvement of long distant transportation and the modern migration of peoples, have been developing steadily over the past several centuries. The pace and the reach of globalization have been augmented over the past several hundred years by the increasing levels of international commerce and trade. Although there was a burst of world commerce in the half century before the First World War, global commerce has especially expanded in the half century after the Second World War. When thinking about globalizing forces, it is important not to overlook the role played by aggressive imperial forces. Many diverse peoples have been brought into closer inter-relationship as a result of political and economic expansion of the Turkish, Russian/Soviet, Spanish, French, British, and American spheres of influence (2). These forces have been in play for a number of centuries. Over the past 150 years, interconnections between distant peoples have been facilitated by a number of new developments in

communication technologies. These include the telegraph, international postal systems, the telephone, long distance cables, television, satellite-relayed communications, and now the Internet.

Several of these globalizing forces – the distance-spanning and interconnecting influence of modern commerce, transportation systems, and communication media – are closely interwoven with another phenomenon, integrally related to them, namely the development of modern industry and business. Modern commerce, transportation, and communication media are in part by-products of modern industry. They also act to extend the possibilities and influence of modern industry. Correspondingly, although modern industry itself and modern businesses are not globalizing forces as such, they have shaped and affected the character of these globalizing forces. Modern industry and businesses have found ways to make more productive use of human and natural resources. In the process, they have helped to raise standards of living for billions of humans. The modern world is clearly a world of nation states, because the dominant and prevailing political jurisdictions are nation states rather than (as often in the past) villages, cities, tribes, manors, and empires. Nonetheless, fifty of the largest economies in the world belong to businesses while 50 belong to nation states.

As a result of the influence of these several globalizing forces – the missionary religions, the migration of peoples, the expansion of the European colonial empires, the development of modern commerce, transportation, and communication, the contemporary globalized world exhibits a number of characteristic features. I will mention several features that seem important when we begin thinking about Internet ethics. For example, one, there have emerged a number of global languages – languages used in many different countries and settings, distant from the locale where they were first used. These include Arabic, French, Spanish, Portuguese, Han (Chinese), Russian, and English. Two, there have been vast increases in the amounts of information that is being created, has been collected, and can be comparatively easily accessed. Correspondingly, the role of information – including the ways it is stored, arranged, communicated, and utilized – plays an ever more influential and decisive role in diverse areas of modern life including politics, industry, the development of energy, and practice of medicine. Three, the forces of globalization have made humans ever more aware of the diversity of human cultures. As people in the North Atlantic countries became conscious of this cultural diversity in the eighteenth and nineteenth centuries, they also attempted to make sense of it, sometimes in quite problematic ways, as Hegel did when he treated other cultures as less advanced. The recognition of cultural, and therefore ethical, diversity remains a challenge that has yet to be fully appreciated and addressed.

Three, gobalization has in the past century assumed, as well, an emerging civil and semi-political expression with the creation of a number of world-governing, world-connecting associations and organizations. I have in mind here the establishment and role of organizations like the International Committee of the Red Cross (with respect to Prisoners of War and Geneva Conventions), The World Health Organization, The International Atomic Energy Association, The World Wildlife Association, the World Court, The International Monetary Fund, and the World Trade Organization. These associations variously establish global norms and activate and mobilize people from varied countries to act on behalf of common objectives. All of these organizations establish policies and norms with which national governments are expected to comply. This is true for the international organizations already cited as well as groups like the United Nations, the High Commission of Refugees, the World Bank, and the International Labour Organization. Peoples from diverse countries are inter-connected as well through a host of religious and civil society associations – groups like UNICEF, Amnesty International, the World Economic Forum, the Roman Catholic Church, The World Council of Churches – as well as international trade and international industry associations – like the Kimberly Agreement among firms involved in diamond mining and diamond selling, the Global Compact among businesses generally, and the International Olympic Committee. We could easily name many other associations, gatherings, and councils which exercise some form of global public authority. These associations share in common the following traits: they are comprised of people from many different countries; they seek to foster cooperation among people from around the world; and they establish and seek to gain compliance with particular international policies and norms. The number of these organizations has greatly increased during the past couple of generations.

We use the words global and globalization to refer to a variety of forces and organizations that have functioned to increase the number and intensity of the social connections that link people from different cultures and nations. In addition, we use the words global and globalization to describe a mind set, a way of thinking about the world. To adopt a global mind set means to look at the world as a whole, to view particular issues and concerns in terms of their relationship with this whole. To think globally is to think broadly and to look for and recognize these kinds of larger inter-relationships. The opposite of global thinking is to think in exclusive and parochial terms. To think and act "globally" also entails viewing particular issues in terms of their relationship with and impacts upon the earth as a whole including all of the organic and inorganic systems which are part of the earth. Some observers have referred to this larger whole as the biosphere or the "commonwealth of life." However, the earth includes more than what these terms refer to, encompassing as well both its mineral bases and atmospheric heights. In any case, to adopt a global perspective involves assuming responsibility to care for or help take care of this earth-bound whole. It means recognizing that as humans we are part of, and interact with, a larger earthly reality, which we are dependent upon and which we affect by how we live. Accordingly, we use the term globalization to refer to the degree to which various groups and communities, over time, have moved themselves to adopt this mind set and have, correspondingly, altered and extended their horizons and points of reference to embrace a truly global, earth-grounded perspective. As a result, many groups and communities have become more concerned about environmental issues and sustainable practices in business and personal ways of living. It follows then that the forces of globalization refer not only to developments which inter-connect diverse people in multiple ways but also to developments that lead people to think more globally about their own lives and agendas.

Over the course of the past generation the world we live in has become both more globalized and more unbalanced. In spite of the recent developments in electronic communication, world commerce, and inter-governmental collaborations, the world is far from balanced and far from flat. Today about 2.3 billion humans have incomes of less than $2/day. That means that one in three humans lives in poverty. As a whole these people live shorter lives: more than seventeen year less on the average than those with moderate incomes. They are more likely to experience poor health, to suffer higher rates of infant mortality, to live in the midst of violence, and to receive less education. They are less likely to be able to cushion risks with insurance and to be able to access credit. They are more likely to feel powerless. About half of these people live in the 60 least developed countries. These countries, most of which are in Africa and Central Asia but include as well Haiti, are not working well at all. They seem trapped by cycles of violence, bad government, and their own poverty (3). The other half of these impoverished people live in rural areas of countries like China, India, Mexico, and Brazil; in the slums growing around and within big cities throughout the developing and industrialized worlds; and in impoverished indigenous communities.

To be sure, as a result of economic development and industrialization, rates of poverty have declined over the past century. This is worth noting because this decline means that millions are living longer, receiving more education, enjoying better diets, and residing in healthy circumstances. However, because the numbers of humans have steadily grown, the number affected by poverty has not changed much. It is true that 400 million fewer people experience absolute poverty with incomes of less than $1/day than two decades ago. Almost all of this gain has occurred as a result of economic growth in China and India. However, over these decades in much of Latin America, Eastern Europe, The Pacific, and Sub-Saharan Africa the situation has gotten worse or stayed much the same. At the same time, the relative status of the poor has been aggravated by growing inequality, both within countries and between countries. As those with wealth have gotten richer, average income levels of the poor have fallen (4).

In a world with as much wealth as there is today, why do so many people live in poverty? Although there are other factors, overwhelmingly people are impoverished because they live in economies that are impoverished. They live in slums, rural districts, nations, and regions whose economies do not produce enough opportunities for work or sufficiently well-paying jobs. As a result households in these areas cannot adequately meet their basic needs for sustenance and shelter, education and decent living. In many cases these economies are situated geographically in difficult settings with inadequate access to basic natural resources. In many cases, these economies have

suffered from natural disasters or temporary economic downturns. In practically all cases, compared to economies that have expanded as a result of the growth of commerce and industry, these impoverished economies remain under-productive. To be sure, for centuries many, many humans lived in these kinds of economies: And they lived shorter lives and more meagre existences. It is important to underline this point: Most people are poor because they happen to live in impoverished economies. There is such a tendency to moralize about poverty – to blame it on the poor themselves or on their leaders, that we often overlook this basic economic fact. Thus, if we want to reduce poverty, then we must find ways of making these impoverished economies work better (5).

Our contemporary world faces a number of risks, which cannot be ignored. Because humans are now more closely interconnected, we are more vulnerable to the spread of infectious diseases. Globally, humans face increased risk from climate change and environmental degradation. Although some populations are at greater risk than others, as a whole the insecurity of humans is affected by the deforestation and desertification of large areas, the reduction in the extent of arable lands, and the lowering of water tables and diminishing quantity of water in aquifers. As the overall climate of the earth warms, we face the risk both of rising sea levels and dramatic changes in ocean currents, both of which changes would adversely affect the life chances of millions of humans. In addition to these environmental risks, we face a range of political risks, associated especially with the wide spread resort to violence by militant dissidents, disadvantaged social groups, semi-organized gangs, and nation states which in various ways feel threatened by local insurrectionaries. There are on-going violent civil conflicts in several dozen contemporary countries, some overtly experienced and some experienced as threats which from time to time break out into actual attacks. In many cases civilians have become the targets of these attacks. For many people the sense of threat is aggravated by the fact that so many countries now possess or seem capable of developing extraordinarily lethal weapons, including nuclear bombs as well as chemical and biological weapons. In addition to these quite serious and sizeable environmental and political threats, the processes of industrialization bring with them not only enhanced standards of living but also a number of economic risks. These include both the threat of periodic economic depressions and bouts of inflation, which may be managed in ways that reduce or aggravate the distress of the households adversely affected, as well as the threats of income loss through unemployment, old age and accidents, which are variously managed in many developed, but few under-developed, countries through social insurance programs.

In many ways the contemporary world has become more globalized. It remains an unbalanced and risky world. It is as well a world of many distinct communities, countries, cultures, religions, and economies. Although these groups may interact in diverse ways, and affect and be affected by each other in various ways, these groupings remain distinct and serve as the reference bases for personal identity and the objects of considerable loyalty. Because of the increased interconnectedness, especially as this has been occasioned by modern communication and commerce, some observers have argued that we are living in an increasingly borderless world. Given the degree to which most people live within in distinct communities (as well as nations, cultures, religions, and economies), and given the extent to which these groupings have established authoritative forms of self-governing to manage their group life, it seems inappropriate to describe the worlds as borderless. It is probably more accurate to describe our world as one in which some kind of border-crossing can now be managed with greater ease.

As we attempt to identify the issues and contours of a responsible Internet business ethics, we are well-advised to begin thinking globally and taking seriously the larger context in which both these new modes of business and communication arise as well the ethical issues they occasion. The larger context is one of a globalized world that continues to be constituted by many diverse communities, a world that remains in specific ways unbalanced and faces a range of identifiable risks.

Responsible Business Practices.

How do we best think about the ethical responsibilities of business?

One response is captured by the belief that businesses should be socially responsible. Businesses should increase their philanthropic giving and social investments. They should help to address social problems like poverty, hunger, and the AIDS crisis. They should become greener. They should

especially steer clear of certain questionable practices like uses of forced labour. In a phrase: They should become morally good organizations. Often those who advocate this view argue that businesses should focus less on their profits and their bottom line. Or stated somewhat differently, they allow the concerns for social and environmental issue to modify their strictly business interests. There is much to recommend this position (6). It has been championed by many groups (7).

However, this view of business responsibility has been subject to a number of weighty critiques. Businesses are, after all, businesses not social welfare agencies. They do not especially have expertise in social problems. In any case, firms have an important and basic fiduciary responsibility to their customers, employees, creditors, and share holders. These groups expect businesses to be good at their business so that these groups will in turn benefit appropriately from their corresponding investments. Often in their effort to be, or appear to be, socially responsible, firms have undertaken initiatives that put themselves and their stakeholders at excessive risks (8). For example, Levi Strauss in the mid-nineties refused to work with suppliers in China because of human rights violations in that country. Later, recognizing in part the huge market from which they were excluding themselves, the firm found it had to reverse this position. This was too good of an opportunity to miss out on. In any case, from the perspective of the developing world, what these communities need most are initiatives that will help their impoverished economies to grow. Social projects add less overall value than business operations that foster economic development.

Many of those who criticize the view that businesses should become socially responsible do so because they have adopted the polar opposite position: namely that, in the words of Milton Friedman, "The social responsibility of business is to increase its profit." In practice, in developing areas, this approach has often led international businesses to seek to minimize their costs – with respect to labor, operations, taxes, and supplies. Whether these firms were extracting, harvesting, fabricating, or assembling, typically many such businesses have attempted to further their overall interests by reducing their expenses. This view of business has been widespread. To be sure, it makes sense to conserve expenses as one important concern among a number of others. However, pre-occupation with cost-minimization, especially when business people focus on short terms results, often leads to cutting corners. Correspondingly, there are many accounts in the developing world of underpaid and overworked laborers, employees forced to work in unsafe and unhealthy conditions, ravaged environments, and firms using clever but dubious accounting practices to avoid local taxes (9). All these practices result from narrow-minded efforts to reduce costs and maximize short term returns.

In fact, if this approach to business is too strictly followed, it exposes firms to a number of risks. These include the obvious risk of engendering disaffected and therefore underperforming workers – with high turnover rates. Cost minimizing strategies also raise the risk of giving rise to disaffected consumers, who do not want to buy products made by firms regarded as morally corrupt. (10) There are also the risks of getting caught bending laws or accounting principles. Firms regarded as exploiters also face greater security risks, as they are more likely to become targets for acts of vandalism and sabotage. In several cases, firms have faced the additional risk of angry investors selling off their shares when firms were exposed as being complicit with human right abuses. So, to a degree, a strictly bottom line approach to business in the developing world can become risky business (11).

I propose a third way of thinking about the ethical responsibilities of businesses, which I refer to as the value-added approach. In order to explain what I mean by a value-added view of business interests, it is useful to begin by looking at what firms are as social organizations. Briefly-stated, businesses are organizations that utilize human and natural resources in order to produce and market goods and services. Furthermore, in so far as they stay in business, we can add that businesses are wealth creating organizations. Firms add economic value in the form of profits, wages, interests, as well as useable commodities and services. In order to do these things – that is, add economic value, businesses put into motion a series of on-going wealth-creating interactions with their stakeholders. Stakeholders typically include employees, creditors, customers, suppliers, shareholders, and affected communities. It is often said that businesses *have* stakeholders. This way of discussing stakeholders is not in fact accurate because it makes it seem as if firms could exist independent of their stakeholders. But they cannot. Firms do not strictly have stakeholders. Rather,

firms are constituted by their interactions with their stakeholders. Firms cannot stay in businesses without these ongoing interactions (12).

A value-added approach to the bottom line seeks to protect and enhance the overall economic value of firms as they are embodied in the varied assets associated with these several sets of interactions. These assets take a number of different forms. For the purpose of analysis, we can distinguish between five different kinds of assets. These include, one, financial assets, which include income and shares; two, productive assets, which include physical operations and organizational structures; three, human assets, which refer to the skills and dispositions of workers; four, social assets, which refer to social trust and networks; and, five, natural assets (13). Overall, a firm is genuinely creating wealth if, as it utilizes and modifies these various assets, it adds to and does not deplete them. To be sure, firms draw upon and add to some assets more than others. A firm may become imbalanced in how it utilizes, uses up, conserves, and adds to particular assets. A value-added perspective calls for firms to keep tract of the overall state of the assets with which they are working. This perspective requires firms to gauge how well they are protecting, conserving or depleting these assets. Businesses in the extractive industries face a special challenge, because, by the very nature of what they do, they are using up certain natural assets. The following case might be made with respect to businesses in the extractive industries: These firms may overall add economic value, even though they do in fact deplete some resources, such as underground fossil fuel reserves, if they correspondingly add value by expanding financial, human, productive, and/or social assets, and do not measurably deplete other natural assets.

As I describe this value-added approach to business, I am making a crucial assumption. I am assuming that as firms interact with their several stakeholders, they engage in fair exchanges. That is, on both sides, I am assuming that these exchanges meet the following minimal criteria: They are voluntary, based upon adequate and reliable information, and benefit each partner in ways that are roughly proportionate to contributions and efforts each makes and the risks each faces. These are the minimal ingredients of what has traditionally been called "commutative justice." To the extent that businesses interact with their stakeholders on the basis of fair exchanges then as businesses grow their assets, they correspondingly add economic value to the larger society to the degree their immediate stakeholders benefit from these exchanges. Let me add: It makes sense for businesses to engage in fair exchanges with stakeholders both for moral reasons, because it is just, and for reasons of self-interest. Because fair interactions with stakeholders are mutually beneficial, stakeholders are likely to act in ways that add more value (14). I can illustrate this point with respect to employees. When, for example, employees feel their interests are not well respected, they act differently to the disadvantage of their employers. Turnover, absentee, and tardiness rates increase; employees are much more likely to work to rule and to do sloppy and careless work. Productivity drops markedly. Moreover, when firms introduce regimentation and surveillance to address these problems, workers typically react in ways that intensify these negative rates and traits (15).

It is important to observe that the firm may well produce profits while running down their productive assets – allowing both their machinery and their organizational operations to deteriorate. Firms may also produce profits while running down their natural assets by depleting them, and running down their human assets by abusive labor practices. No matter how sizeable their profit margins or their market niches, firms do not add economic value if their overall economic value decreases because of appreciable declines in the value of the productive, human, social, and/or natural assets with which they are working.

This value-added approach to responsible business practices has special relevance to developing areas. Businesses in these areas can and should think of their business interests not in terms of minimizing their costs but in terms of protecting and developing their assets and thereby adding economic value. Moreover, they should think of their assets broadly in term of the ways their interactions with their stakeholders work with and variously add to or deplete their overall store of financial, productive, human, social, and natural resources. When international businesses operate in these ways, they correspondingly add economic value to these developing areas. They have done so by providing jobs and income, chances to learn new skills, taxes, stimulus for other businesses, and valued goods and services. As the economies of these areas have grown, the rates of poverty have declined.

This value-added approach to business ethics provides a useful point of reference to begin thinking of issues and concerns that might characterize the field of Internet business ethics. In broad terms, ethically responsible businesses are expected to add and not deplete economic value and they are expected to interact with their stakeholders on the basis of open, reciprocating, and fair exchanges. Correspondingly, they are expected to comply with local and international law as well as widely accepted accounting standards.

Ethical Issues Related to the Use of the Internet

Before listing and discussing a number of ethical issues that have arisen with regard to the use of the Internet, I would like to call attention to three quite different forms in which ethical issues generally arise: namely, one, as deviations in behaviour from obligatory standards; two, as short falls from aspiration standards or standards of excellence; and, three, as genuine dilemmas with regard to morally well-defended alternatives. Depending upon the form in which issues arise, quite different kinds of responses are called for. While strict rules, prohibitions, and punishments work quite well with respect to issues that assume the form of deviations from obligatory standards, these responses do not work very well with regard either to short falls or dilemmas. Short falls are often best addressed through encouragement, peer support, and opportunities to learn and to try again. In turn, dilemmas are typically best addressed through debates, discussions, further research, explorations of not yet imagined alternatives, negotiations, and hard-bargaining. Because people often fail to appreciate the form – or combination of forms – in which ethical issues arise, they typically respond in ways that complicate the issues at hand.

A number of different ethical issues have arisen with regard to the use of the Internet. I will list and discuss a number of issues, noting in the process the forms in which these issues typically arise.

1. Ethical issues of access to the Internet.

Many people lack any access or have very little access. These people are denied access for many of the following reasons: they lack the necessary equipment; sources of electricity are absent or irregular; they cannot easily gain assistance in the use and repair of their equipment; broadband connections are lacking; and/or they lack the skills fully and effectively to use their equipment. This lack of access is an issue of fundamental justice, further reinforcing inequalities in an unbalanced world. In this context fair access represents a valued-objective that seems to be both an aspirational goal and a social minimum that ought to be generally available. In many ways this issue cannot be adequately or appropriately addressed without addressing the issues related to the corresponding problems of poverty, which affect at least one in three humans. Compared to the other issues, which I will also review, this issue is especially pressing because of the ways it further marginalizes the poor. In circular ways, expanding Internet access in impoverished areas may well work to foster and facilitate economic expansion in these regions just as broadly-based economic development in turn is clearly correlated with increased Internet accessibility. This particular ethical issue is probably best addressed both directly, through special projects aimed at extending accessibility, and indirectly through initiatives at promoting economic growth generally.

In some areas full access to the Internet is blocked through selective censorship. In particular, a number of people have objected to the way Internet server firms like Yahoo, Google, and Microsoft agreed to comply with the policies of the Chinese government to remove from Internet sites located in China reference to certain terms like equality, Tiananmen Square, and human rights. This issue appears more like a complicated dilemma, in which considerations about local laws, timing of protests, and the search for imaginative alternatives all play a part.

2. Ethical issues related to the odious uses of the Internet

I use the term odious uses to refer to a number of practices that violate basic national and international laws and/or fundamental moral principles. In so far as possible, these uses should be eliminated or greatly reduced. Some of these abusive practices cause more damage than others. In most cases, there are no easy ways to curtail these abuses. In some cases, it is easier to develop

protective responses – like antivirus software – than to detect and eliminate the abusive practices themselves. All of the following represent examples of odious uses: the use of the Internet, often by governments, to secure private information; identity theft by use of the Internet; and malicious acts of sabotage to interfere with or damage information systems belonging to others. While most people consider these practices wrong, there is less consensus with regard to several other practices, such as, for example, the problem of flight capital. The developing world loses many billion dollars every year through abusive transfer pricing, miss-pricing schemes, bribery, and the private pocketing of public and corporate funds (16). Much of these funds are transferred electronically to offshore banking centers. From the perspective of the developing world these fleeing funds represent a huge cost to their economies. The practice of transferring these funds electronically represents in many ways the odious use of a good and legitimate means. It seems fitting to call attention to this problem, even if the fitting response might have more to do with changes in tax laws in the industrialized societies rather than any alterations in the status and rules of Internet use.

3. Ethical issues related to what might best be described as questionable practices

These questionable Internet uses are not as potentially harmful as odious practices. In most cases, these questionable practices represent activities that were wide-spread before the Internet, but the Internet seems to have extended and multiplied their uses. For the most part direct legal action is not likely to alter these practices in any major ways. With respect to these questionable practices in particular, it is important to use our imagination and to collaborate with others to arrive at constructive responses to these issues. Many of the questionable practices have to do with the ways people use the Internet to send messages. In particular I have in mind uses of the Internet to shame others, to pass along malicious rumours, to distribute pornography, to seek out victims for financial scams, to disseminate widely provocative but not well-established evidence, and to pass along hearsay as fact. The Internet allows these kinds of morally questionable messages to be sent to more people in less time than by means of traditional communications. Most importantly, the Internet allows people to disperse widely information that has not first been reviewed, reflected upon, and edited by third parties positioned to think about the intelligibility of these messages and how they are likely to be received. In a globalized world with an overload of information, these kinds of third parties can play a vital role in helping to distinguish trivia from matters of importance and in helping senders to articulate clearly in comprehensible ways. Sometimes, however, these third parties play an excessively heavy hand, weeding out what seem to them to be odd messages that may be quite important and deferring too much to what is regarded as currently wise and sensible. Correspondingly, the Internet has served as liberating vehicle, making widely available information that previously would never have received much public attention. Nonetheless, this freedom has also facilitated the questionable practices like shaming, rumour mongering, and passing off unsubstantiated information as well-established facts.

Other questionable practices have to do with the ways people use the Internet to obtain information. Some of these practices complement the questionable practices associated with the use of the Internet to send messages. I am referring to the uses of the Internet to pass on rumours and to treat hearsay as fact. Other questionable practices include downloading music, videos, photographs, or information in ways that are either clearly illegal or at least dubious. Many people use the Internet to copy information they in turn treat as if it were their own. Sometimes this assumes the form of overt plagiarism. In other cases it represents instances of careless copying as well as careless failures to identify and attribute sources of information. These problems have become more aggravated with the increased use of the Internet. All of these questionable practices are morally troubling. What is especially challenging with respect to these questionable practices is to figure out effective measures to limit these practices. Efforts to define these wrongs and to meet out severe punishment in hopes of deterring others do not appear to be particularly effective. The individual who are caught and punished typically represent a very small percentage of those involved. Clearly, in order to address these practices in more effective ways, we need imaginatively to explore a range of familiar and unfamiliar initiatives.

4. Ethical issues related to promising but ambiguous possibilities

The Internet has created and will create countless promising possibilities, the particular moral value of which cannot easily be determined at the outset. By means of the Internet, specific groups and individuals have created hosts of online markets, developed readily accessible entry ports for encyclopaedic knowledge, constructed meeting places for strangers to converse and meet, brought into being gab-sessions for interested parties, and mobilized hundreds of thousands to participate in public demonstrations. These all represent promising possibilities (16). But these uses also raise a number of ethical questions that need to be addressed, such as the following: Given what we know and what we have thus far seen developed, what other kinds of initiatives should we be encouraging? How might we apply or expand some of these practices to address some of the perplexing issues that are inter-connected with our diverse, globalized world that remains unbalanced and at risk? In what ways might existing initiatives have unanticipated troubling side-effects?

Global Perspectives on Business, Internet, and Ethics

As the previous discussion of Internet ethics makes clear, ethical issues associated with the Internet assume diverse forms. Addressing these issues is challenging in a number of ways. In some cases, we only partially understand the full dimensions of the issues themselves. Overall, as we attempt to address these issues, we need to find ways of sorting out which issues are most weighty and important, which issues require more urgent responses, and in relation to which issues are we likely to be in better positions to act effectively. The answers to these questions are likely to be different depending upon our locale and the resources we have available to respond. The most decisive challenge is to develop imaginative and effective responses. Identifying ethical problems is often much easier than developing ways of acting that are likely to have significant impact.

Endnotes

1) On February 29, 2008, I delivered a public lecture at St Jerome University in Waterloo, Ontario, Canada with the title "Rethinking the bottom line: International Business and Poverty." I have utilized material from this lecture as I wrote the second section of this essay and small parts of the initial section.

2) We could add as well the spheres of influence of the Danish, Portuguese, Italian, German, Dutch, Japanese, and Iranians.

3) Paul Collier (2007) *The Bottom Billion: Why the Poorest Countries Are Failing and What Can Be Done About It* (Oxford University Press)

4) Aside from the recently improved economic circumstances in places like China, India, and Malaysia, there was greater economic growth in the developing world in the period 1950 to 1975 than in the past twenty-five years. See Branko Milanovic (2005) *Worlds Apart: Measuring International and Global Inequality* (Princeton and Oxford: Princeton University Press)

5) In many settings, to be sure, impoverished people and their leaders occasion or aggravate the poverty they experience. However, most people are poor because their economies are not working well. Poverty is occasioned primarily by weak economies. In both developing and industrialized countries, it is also occasioned by unfair distributions of jobs, income, opportunities, education, access to natural resources, and access to credit. Viewed from the perspective of poor households, many people suffer from poverty because their capacity to generate household income from employment, welfare, credit, and land is blocked, frustrated, or in other ways limited compared to others in their same economy. As I talk about the role of international businesses, I will touch upon how businesses affect these areas. See Frederick

Bird (2006) "Perspectives on Global Poverty" *Just Business Practices in a Diverse and Developing World* eds Frederick Bird and Manuel Velasquez (Houndsmills, U.K. : Palgrave-Macmillan), chapter eight.

6) Joseph Smucker (2006) "Pursuing Corporate Social Responsibility in Changing Institutional Fields" *Just Business Practices in a Diverse and Developing World* eds Frederick Bird and Manuel Velasquez (Houndsmill, U.K.: Palgrave-Macmillan), chapter 3.

7) Although many an advocate has argued that socially responsible firms financially perform better, the case for this position cannot conclusively be demonstrated empirically. (see Simon Zadek, (2004) "The Path to Corporate Responsibility" *Harvard Business Review* (December) (Reprint 80412.; D. Margolis and J. Walsh," Misery Loves Companies: Re-Thinking Social Responsibility by Business" *Administrative Science Quarterly*, Vol. 49 pps 268- 305) As I have argued elsewhere, this formulation misconstrues the issues at hand (Bird and Velasquez. Intro to part Two)

8) C. Crook (2006) "The Good Company: A Survey of Corporate Social Responsibility" *The Economist* (22 January) pp 1-22.

9) Naomi Klein (2000) *No Logo* (London: Flamingo); Raymond Baker (2005) *Capitalism's Achilles Heel: Dirty Money and Howe to Renew the Free Market System* (Hoboken, N.J.: John Wiley and Sons)

10) In order to better manage this risk, many of the big brand retailers are now contracting with social auditors to make sure their third world suppliers operate in keeping with minimum codes. See Sylvie Babarik (2006) "Monitoring Labour Conditions of Textile Manufacturing: The Work of COVERCO in Guatemala" Just Business Practices in a Diverse and Developing World, eds Frederick Bird and Manuel Velasquez (Houndmills, U.K.: Palgrave-Macmillan) chapter 7.

11) Anderson, Dan R. (2005) *Corporate Survival: The Critical Importance of Sustainability Risk Management*. New York: iUniverse, Inc.

12) R. E. Freeman (1984) *Strategic Management: A Stakeholder Approach* (Boston: Pitman); R.E. Freeman (2004) "The Stakeholder Approach Revisited" *Zeitzschrift für Wirtsschaft- und Unternehmensethik*, Vol 5 (3, pp 228-41; Frederick Bird (2001) "Good Governance: A Philosophical Discussion of the Responsibilities and Practices of Organizational Governors" *Canadian Journal of Administrative Studies* Vol. 18(4), pp 298-312.

13) See Frederick Bird (2004) "Ethical Reflections" *International Businesses and the Challenges of Poverty in the Developing World* eds Frederick Bird and Stewart Herman (Houndmills, U.K.: Palgrave-Macmillan, ch 1) Here is a fuller account of these several types of assets.

    a) There are financial assets – which include investments, credit, insurance, profits, income, wages, and the willingness of its consumers to purchase its products.
    b) There are productive assets – which include technology, organizational arrangements, energy sources, and relevant physical infrastructures.
    c) There are human assets – which include the skills and willingness to work effectively by laborers as well as executives.
    d) There are social assets – which include the networks, trust, and public order (or security) both within firms and within the societies in which they operate.
    e) There are natural assets – which include raw material firms may process as well as air and water they often take for granted.

14) Frederick Bird (2006) "Just Business Practices" *Just Business Practices in a Diverse and Developing World* eds Frederick Bird and Manuel Velasquez (Houndmills, U.K.: Palgrave-Macmillan), chapter 2.

15) See Ha-Joon Chang (2007) *Bad Samaritans: Rich Nations, Poor Policies, and the Threat to the Developing World* (London: Random House Business Books) and Raymond Baker (2005) *Capitalism's Achilles Heel*

16) For a useful exploration of these possibilities see Don Tapscott and Anthony D. Williams (2006) *Wikinomics: How Mass Collaboration Changes Everything* (New York: Penguin Group).

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Ethics in eLearning

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Abstract

We tend to think of net business in terms of commercial companies—the production and exchange of goods, but education is also a growing net enterprise. In the United States, for instance, online education or distance learning is the fastest growing sector of the higher education industry. All of the ethical dilemmas that net businesses must face are also faced by online educational programs with one major addition—the quality of the learning outcomes. There is currently a dearth of research on the quality of learning outcomes in web-based education and this represents a significant challenge for educational institutions.

Introduction

We tend to think of net business in terms of commercial companies—the production and exchange of goods over the Internet, but education is also a growing net enterprise. In the United States, for instance, online education or eLearning is the fastest growing sector of the higher education industry. All of the ethical dilemmas that net businesses must face are also faced by online educational programs with at least two major additions: First, the eLearning provider is faced with a host of moral challenges related to the quality of the learning outcomes; and second, the eLearning consumer faces a variety of moral challenges related to engaging in the learning process.

Two examples will help to frame these two constellations of ethical issues that are relatively unique to the eLearning enterprise: The first example comes from an e-mail message received some months ago from one of the larger for-profit organizations offering on-line degree programs. The e-mail was dynamic, colorful and carried this banner headline: "You may already have a degree and not know it." Without belaboring the point, the obvious question that arises from this message is, "How much genuine learning takes place in the process of earning a degree that you did not know you have?" This example highlights a broad variety of moral issues related to the quality of eLearning offerings and the effectiveness of eLearning outcomes.

Another example focuses on moral issues for the eLearning consumer: The most recent National Survey of Student Engagement indicates that as high as 59% of U.S. students involved in eLearning programs admit to some sort of academic fraud either "very often (27%) or "often" (32%)(NSSE, 2007). This is the primary concern of faculty teaching at a distance—that the eLearning student doing the work is indeed the student enrolled and that the student is not misrepresenting his or her work. Admittedly, today's college students have been raised in an era of decline in public morality, involving scandal and corruption by public servants, major corporations, and private citizens. These events must surely affect student's attitudes about ethical behavior. Further, the eLearning process is quite different from campus-based learning and provides greater opportunity for academic misrepresentation. This example highlights another constellation of moral issues that must be addressed in the context of the eLearning enterprise.

In an effort to keep this overview simple, this paper names these two constellations of moral issues according to the one who is facing the ethical dilemma: the teacher and the learner. While there is some overlap of subject matter around the edges, at the center the most significant ethical issues in eLearning can be easily divided in this way. Following is a survey of the most salient eLearning moral concerns following this division:

Ethical Issues for the eLearner

According to a U. S. National Institute of Justice report on the ethical challenges inherent in the use of information technology in education, there is a new phenomenon described as "psychological distance" (Savin, 1992). In interacting with others face-to-face we get immediate feedback on inappropriate and unethical behaviors, even if it is as subtle as body language. In using information technology in a way that could harm to others, the act feels less personal because we can't see or hear the other person in the exchange. The report goes on to note that traditionally moral values were learned at home and usually reinforced in school. We cannot count on that today. Values are not being learned at home and schools are often restricted in their roles teaching social values. Our young people are becoming psychologically distant in their interactions with others.

This psychological distance has enabled a prevalence of academic fraud both in the way eLearning resources are applied to the traditional learning setting and in the eLearning process itself. R. A. Fass, in a study for the American Council on Education, described early patterns of inappropriate behavior in eLearning (pages 173-175). Fass identified the following categories of academic fraud in the eLearning environment:

- Inappropriate assistance on examinations
- Misuse of sources on papers and projects
- Writing assistance and other inappropriate tutoring
- Misrepresentation in the collection and reporting of data
- Improper use of academic resources
- Disrespecting the work of others
- Lack of protection for human subjects in research
- Breaches of computer ethics
- Lack of adherence to copyright and copy-protection
- Providing inappropriate assistance to others
- Lack of adherence to academic regulations

This categorization of academic fraud in the eLearning setting is quite similar to cheating that has taken place in the academy for generations. What leads to academic fraud in eLearning is also similar to the motivation for cheating in the on-campus setting: pressure for grades, anxiety in the testing environment, lack of knowledge related to academic regulations, personality characteristics and lack of development of moral reasoning. Some of these dynamics are accentuated in the eLearning environment by the phenomenon of psychological distance. In addition, the potential for lack of knowledge of curricular regulations and the academic code of behavior is also heightened for the eLearner.

Some have argued that many colleges and universities do not adequately spell out information on academic fraud in their handbooks and catalogs, especially those provided to the eLearner. Students coming from secondary education often do not understand the issues of collegiate ethics and academic integrity, especially in the eLearning environment. Also, many eLearners are coming back to the academic environment after long absences and must be reacquainted with the academic moral code. It seems imperative that our eLearning institutions do three specific things to address ethics in eLearning: First, develop and publish a clear statement of definition regarding academic fraud in the eLearning environment; second, set policy that provides a specific academic moral code for students to follow; and third, incorporate ethical issues of technology and eLearning into the curriculum.

Ethical Issues for the eTeacher

In addressing the constellation of issues on the other side of the eLearning equation, it is important to remember that the reference to "eTeacher" here is used in the broadest sense—its true meaning is the eLearning provider. While there are certainly ethical issues that are addressed by the actual teacher in an eLearning environment, there are far more faced by the institution that is offering the eLearning opportunity. Using the term eTeacher highlights the fact that even eLearning is fundamentally based on a human relationship, albeit a new kind of teacher-learner connection with different patterns of interaction and association.

Certainly the most important moral challenge for the eTeacher is maintaining the quality of the educational process. As our primary example (above) indicates, there is nothing that legally

prevents the offering of illegitimate degree programs that have no inherent educational value. In the end this is a moral issue. It is true that accreditation processes are aimed at assisting both the provider and the consumer is sorting through these complex issues related to the minimum quality of educational offerings. But even accreditation becomes a highly complicated issue for the eLearner as offerings cross accreditation and even international boundaries. In the end it is up to the eLearning provider to institute evaluation and assessment efforts to assure that eLearning outcomes are fully effective.

A related but distinct ethical issue for the eTeacher is full disclosure of academic regulations and standards for eLearners. With a completely different platform of interaction between eLearner and eTeacher, the provider must be attentive to new ways of transmitting information and assuring genuine communication. Simply publishing the academic catalog on a website may not be enough. In the process of all communication, the eTeacher must assure that it is the actual eLearner who is in communication and that no academic fraud is being committed. This is no different from the traditional teacher-learner relationship; it is just much more complex when the relationship is at a distance.

Education providers have always been faced with the challenge of providing appropriate learning resources, but for the eTeacher a whole new layer of educational infrastructure must be addressed if the eLearnng environment is to be fully effective. Not only are books and learning equipment important, but providing a reliable network infrastructure with effective learning software becomes absolutely critical. With that come network security and safety issues, which have genuine ethical implications. Further, a range of duplication and copyright policies must be in place to protect against "softlifting" and illegal use of electronic resources. Miller, Kupsh, and Jones (1994) discussed the need to incorporate computer software ethics in the curriculum of each and every course about or utilizing computers. The computer software instruction should discuss software licensing and limited warranty agreements and should include terminology of computer software ethics.

This brings us to a broad range of ethical issues related to research. Certainly one of the most significant new opportunities for academic fraud stems from undocumented or poorly documented use of on-line sources. eTeachers must be attentive to educating eLearners regarding the ethical use of Internet resources. There are also a host of ethical implications regarding the use of human subjects in Internet-based research. Frankel and Siang (1999) have provided a basic protocol related to the ethical and legal implications of human subject research on the Internet. They provide two basic principles for conducting research of human subjects on the Internet: 1.) autonomy–all subjects are to be treated with respect as autonomous agents; and 2.) beneficence–researchers are obligated to maximize the benefits of the research and minimize the harms and risks to the subjects, including informed consent and protection of privacy and confidentiality.

Research

A search of the literature reveals scant explicit concern about the issue of ethics in online education and eLearning. The resources that are available are primarily institutionally-based regulations directed at policing or workshop resources focused on very pragmatic objectives. Virtually nothing is available that applies the established principles of ethical inquiry to this important new area of moral exposure for educational institutions. Further, there is little research specifically focused on the quality of learning outcomes in online and distance education. Both of these areas represent imposing challenges for modern educational institutions and topics of significant opportunity for ethics and education scholars.

Conclusion

It should be acknowledged that the basic intent of eLearning is a moral good. Attempting to provide "the greatest good to the greatest number of people" is inherently an ethical task. No one could argue that it is not a moral good to make education available to those who have been deprived of it because of location or expense or other circumstance. As with other moral goods, however, there are ethical risks and vulnerabilities that must be acknowledged and addressed in the process.

As eLearning becomes more widespread, so the investigation and discussion of its ethical implications must become more systematic and pervasive.

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Information Technology for Africa

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Abstract
In the dawn of the 21st century - the Information Age-, Information and Communication Technologies create profound challenges and opportunities for Africa, both intra and extra continentally. This paper discusses issues affecting Information and Communication Technologies development in Africa. In recent years, Information and Communications Technologies have penetrated many sectors, however, ICT development and infrastructure in Africa is still far behind those of the developed countries due to poorly managed policies and regulations, poor infrastructure, lack of capital investment, low literacy rates, high cost of bandwidth, and social issues. The paper also discusses some prospects made in recent years to improve communication systems on the continent as well as some IT projects in Africa by the United Methodist Church.

Introduction
Information and Communications Technology (ICT) is a key factor for social and economic development; however, there exists a wide discrepancy in development and infrastructure of ICT technology between African countries and developed nations. Many people in the developed nations have easy access to information through the use of the internet, email, and telephone because of access to high performance networks which is either under-developed or non-existent in most parts of Africa. Even though information technology has started penetrating many sectors, including education, health care, business, governance, and rural development, many African countries are saddled with inadequate communications infrastructure. Improvements in the speed of the internet over the past decade as measured by Stanford University shows Africa as the region with the slowest improvements and is actually steadily falling behind the rest of the world. (1)

Providing technology and connectivity in Africa is not something a single nation or organization can do alone. All nations on the continent must come together in a collective effort to find a solution. As pointed out by Kwankam and Ningo (2) our vision should not be limited to catching up with what exists in the developed world. This will simply guarantee the propagation of the gap between them and us. Secondly, it will continue to create problems of appropriateness, adaptability, etc., which will continue to eat up our meager resources.

To avoid making Africa the dumping ground of unneeded technology, proper guidelines must be set down for equipment manufacturers, distributors, service providers and end users. Such guidelines must have the backing of government in order to be effective, and should cover:

- acquisition of information technology,
- use and application of the technology,
- human resource development, and
- regulation/deregulation and management.

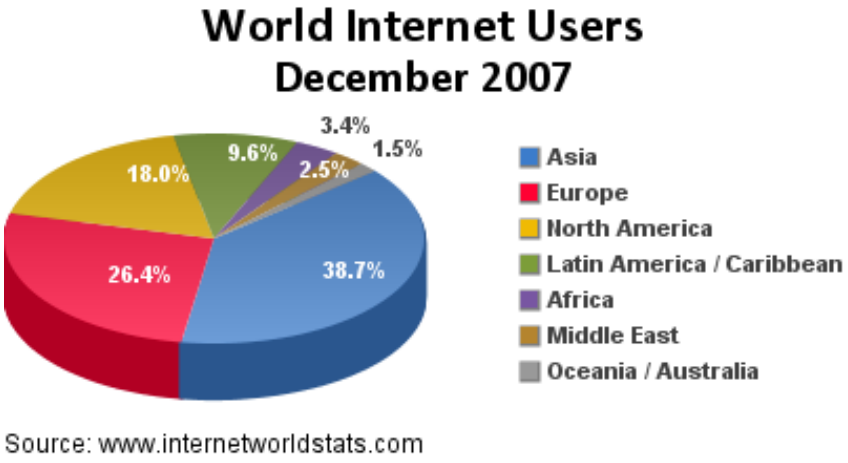
Lack of infrastructure in most African countries may be seen as a disadvantage. African nations are not saddled with infrastructure built on obsolete technology that may require huge capital and extensive process to replace. A proactive approach must therefore be adopted to provide a solution that may serve the needs of the people. By simply adopting the developed world's model will not necessarily lead to equitable spread throughout society, and that the divide will be amplified between the minority elite groups and the poor masses. A customized communications strategy to allow information to reach rural, remote, cross-border and large geographic areas should be adopted

by combining existing systems and technologies with new ones, where necessary, to unsure cost-effective and sustainable systems for communication.

To ensure proper implementation and development of the IT industry African nations must focus on sectors where institutional capacity already exists. Examples of such sectors are education, health, business, finance, government institutions, and the environment. A survey by Harvard University shows that access to the internet is so desirable to students in Africa that they spend considerable time and money to get it. Many students surveyed, with no internet connection at their universities, resorted to private, fee charging internet cafes to study and learn. (http://www.arp.harvard.edu/AfricaHigherEducation/Online.html)

Internet Connectivity in Africa Compared to the Rest of the World

World Internet usage statistics released by World Internet Stats shows Africa with approximately three times lower penetration than any other region. However, usage growth between 2000 and 2007 is almost 900%, making Africa a huge potential market for the internet technology.



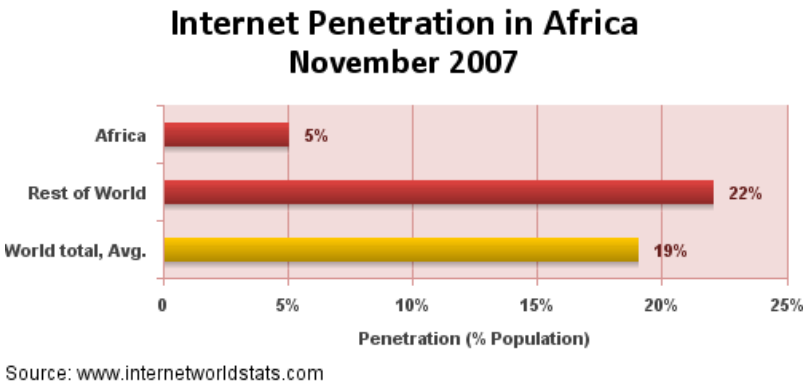
Source: www.internetworldstats.com

WORLD INTERNET USAGE AND POPULATION STATISTICS						
World Regions	**Population (2007 Est.)**	**Population % of World**	**Internet Usage, Latest Data**	**% Population (Penetration)**	**Usage % of World**	**Usage Growth 2000-2007**
Africa	941,249,130	14.2 %	**44,361,940**	4.7 %	3.4 %	882.7 %
Asia	3,733,783,474	56.5 %	**510,478,743**	13.7 %	38.7 %	346.6 %
Europe	801,821,187	12.1 %	**348,125,847**	43.4 %	26.4 %	231.2 %
Middle East	192,755,045	2.9 %	**33,510,500**	17.4 %	2.5 %	920.2 %
North America	334,659,631	5.1 %	**238,015,529**	71.1 %	18.0 %	120.2 %
Latin America/Caribbean	569,133,474	8.6 %	**126,203,714**	22.2 %	9.6 %	598.5 %
Oceania / Australia	33,569,718	0.5 %	**19,175,836**	57.1 %	1.5 %	151.6 %
WORLD TOTAL	6,606,971,659	100.0 %	**1,319,872,109**	20.0 %	100.0 %	265.6 %

Internet Usage Statistics for Africa

(Africa Internet Usage and Population Stats)

INTERNET USERS AND POPULATION STATISTICS FOR AFRICA						
AFRICA REGION	**Population (2007 Est.)**	**Pop. % in World**	**Internet Users, Latest Data**	**Penetration (% Population)**	**% Users in World**	**Use Growth (2000-2007)**
Total for Africa	941,249,130	14.2 %	**44,234,240**	4.7 %	3.5 %	879.8 %
Rest of World	5,665,721,036	85.8 %	**1,217,798,457**	21.5 %	96.5 %	241.6 %
WORLD TOTAL	6,606,970,166	100.0 %	**1,262,032,697**	19.1 %	100.0 %	249.6 %
Source: www.internetworldstats.com						



Source: www.internetworldstats.com

INTERNET USAGE STATISTICS FOR AFRICA						
AFRICA	Population (2007 Est.)	Internet Users Dec/2000	Internet Users, Latest Data	% Population (Penetration)	(%) Users in Africa	Use Growth (2000-2007)
Algeria	33,333,216	50,000	**2,460,000**	7.4 %	5.6 %	4,820.0 %
Angola	12,263,596	30,000	**172,000**	1.4 %	0.4 %	473.3 %
Benin	8,078,314	15,000	**700,000**	8.7 %	1.6 %	4,566.7 %
Botswana	1,815,508	15,000	**60,000**	3.3 %	0.1 %	300.0 %
Burkina Faso	14,326,203	10,000	**80,000**	0.6 %	0.2 %	700.0 %
Burundi	8,390,505	3,000	**60,000**	0.7 %	0.1 %	1,900.0 %
Cameroon	18,060,382	20,000	**370,000**	2.0 %	0.8 %	1,750.0 %
Cape Verde	423,613	8,000	**29,000**	6.8 %	0.1 %	262.5 %
Central African Rep.	4,369,038	1,500	**13,000**	0.3 %	0.0 %	766.7 %
Chad	9,885,661	1,000	**60,000**	0.6 %	0.1 %	5,900.0 %
Comoros	711,417	1,500	**21,000**	3.0 %	0.0 %	1,300.0 %
Congo	3,800,610	500	**70,000**	1.9 %	0.2 %	13,900.0 %
Congo, Dem. Rep.	68,008,922	500	**180,000**	0.3 %	0.4 %	35,900.0 %
Cote d'Ivoire	18,373,060	40,000	**300,000**	1.6 %	0.7 %	650.0 %
Djibouti	496,374	1,400	**11,000**	2.2 %	0.0 %	685.7 %
Egypt	80,335,036	450,000	**6,000,000**	7.5 %	13.6 %	1,233.3 %
Equatorial Guinea	551,201	500	**8,000**	1.5 %	0.0 %	1,500.0 %
Eritrea	4,906,585	5,000	**100,000**	2.0 %	0.2 %	1,900.0 %
Ethiopia	76,511,887	10,000	**164,000**	0.2 %	0.4 %	1,540.0 %
Gabon	1,454,867	15,000	**81,000**	5.6 %	0.2 %	440.0 %
Gambia	1,688,359	4,000	**58,000**	3.4 %	0.1 %	1,350.0 %
Ghana	22,931,299	30,000	**609,800**	2.7 %	1.4 %	1,932.7 %
Guinea	9,947,814	8,000	**50,000**	0.5 %	0.1 %	525.0 %
Guinea-Bissau	1,472,780	1,500	**37,000**	2.5 %	0.1 %	2,366.7 %
Kenya	36,913,721	200,000	**2,770,300**	7.5 %	6.3 %	1,285.2 %
Lesotho	2,125,262	4,000	**51,500**	2.4 %	0.1 %	1,187.5 %

Liberia	3,195,931	500	**1,000**	0.03 %	0.0 %	100.0 %
Libya	6,036,914	10,000	**232,000**	3.8 %	0.5 %	2,220.0 %
Madagascar	19,448,815	30,000	**110,000**	0.6 %	0.2 %	266.7 %
Malawi	13,603,181	15,000	**59,700**	0.4 %	0.1 %	298.0 %
Mali	11,995,402	18,800	**70,000**	0.6 %	0.2 %	272.3 %
Mauritania	3,270,065	5,000	**30,000**	0.9 %	0.1 %	500.0 %
Mauritius	1,250,882	87,000	**300,000**	24.0 %	0.7 %	244.8 %
Mayotte (FR)	208,783	--	--	--	-	n/a
Morocco	33,757,175	100,000	**6,100,000**	18.1 %	13.8 %	6,000.0 %
Mozambique	20,905,585	30,000	**178,000**	0.9 %	0.4 %	493.3 %
Namibia	2,055,080	30,000	**80,600**	3.9 %	0.2 %	168.7 %
Niger	12,894,865	5,000	**40,000**	0.3 %	0.1 %	700.0 %
Nigeria	135,031,164	200,000	**8,000,000**	5.9 %	18.1 %	3,900.0 %
Reunion (FR)	802,911	130,000	**220,000**	27.4 %	0.5 %	69.2 %
Rwanda	9,907,509	5,000	**50,000**	0.5 %	0.1 %	900.0 %
Saint Helena (UK)	7,543	--	**1,000**	13.3 %	0.0 %	0.0 %
Sao Tome & Principe	199,579	6,500	**29,000**	14.5 %	0.1 %	346.2 %
Senegal	12,521,851	40,000	**650,000**	5.2 %	1.5 %	1,525.0 %
Seychelles	81,895	6,000	**29,000**	35.4 %	0.1 %	383.3 %
Sierra Leone	6,144,562	5,000	**10,000**	0.2 %	0.0 %	100.0 %
Somalia	12,448,179	200	**94,000**	0.8 %	0.2 %	46,900.0 %
South Africa	43,997,828	2,400,000	**5,100,000**	11.6 %	11.5 %	112.5 %
Sudan	39,379,358	30,000	**3,500,000**	8.6 %	7.9 %	11,566.7 %
Swaziland	1,133,066	10,000	**41,600**	3.7 %	0.1 %	316.0 %
Tanzania	39,384,223	115,000	**384,300**	1.0 %	0.9 %	234.2 %
Togo	5,701,579	100,000	**320,000**	5.6 %	0.7 %	220.0 %
Tunisia	10,276,158	100,000	**1,618,440**	15.7 %	3.7 %	1,518.4 %
Uganda	30,262,610	40,000	**750,000**	2.5 %	1.7 %	1,775.0 %
Western Sahara	382,617	--	--	--	--	0.0 %
Zambia	11,477,447	20,000	**500,000**	4.4 %	1.1 %	2,400.0 %
Zimbabwe	12,311,143	50,000	**1,220,000**	9.9 %	2.8 %	2,340.0 %
TOTAL AFRICA	941,249,130	4,514,400	**44,234,240**	4.7 %	100.0 %	879.8 %

Source : www.internetworldstats.com

Factors Affecting IT Development in Africa

Although there is now growing recognition of the far-reaching impact of telecommunications and networking on the economies of African countries, a number of problems restrict its diffusion through public institutions. Shortage of financial and human resources, lack of knowledge on the availability of potential tools, low level telecommunications infrastructure, strict government regulations and monopoly, high cost of bandwidth, low literacy levels, socio-economic and cultural

issues, high cost of commercial licensed software, and rapid changes in technology are all affecting information technology development in Africa.

Low level infrastructure

Underdevelopment of the telecommunication infrastructure remains one of the major problems in I.C.T. development in Africa. Telecommunications diffusion in Africa is the weakest in the world with the least tele-density. The low density of I.C.T. infrastructure, congestion, and costs are significant impediments to technology usage. As a result, I.C.T. access and user exposure to technology are limited. A majority of the users depend on public cyber cafés or institutions for access to the Internet and e-mail.

Government regulations and monopoly

Liberalization of the I.C.T. sector in most African countries in the last 10 years has led to a rapid growth in some areas in technology, especially the cell phone technology. However, there are still some countries where the government has a tight grip over regulatory issues by imposing high tariffs and complete monopoly over the telecommunication sector. As a result, user exposure to technology is limited. Telecom policies vary considerably in Africa. The tariff is several folds that of the developed world. Telecom policies have become not only rigid but also have evolved as a perceived threat to socio-economic development. Even under connection queues for three to four years in some countries in Africa and telecom profitability at a very high margin, the inadequate policies and incompetence of telecommunications management in most countries blocks achievement of the right to communicate, socio-economic development and universal access. For example, Africa University in Zimbabwe uses VSAT for its internet connectivity and pays $7,500 a month for 1024KB downlink and 512KB uplink bandwidth because they could not acquire the license to operate a satellite dish directly.

High cost of bandwidth

Another major factor limiting accessibility is the high cost of international connections to the global telecommunication backbones. For those universities, research centers, and libraries that can afford internet connectivity, bandwidth costs are usually thousands of times higher than for their counterparts in the developed world. All the universities of sub-Saharan Africa, taken together, pay over $3 million per month in connectivity. Due to lack of national and international optic fiber backbones, most countries in Africa depend on satellite technology for connectivity.

Low literacy levels

Information users in Africa have the lowest literacy levels. More than half of Africa's population is illiterate. Over half of those literate cannot gather information for problem solving due to lack of resources and appropriate technology.

Socio-economic and cultural issues

Most users struggle with everyday life. The availability of hundreds of local languages without interface to global knowledge resources has made access to information more difficult. The near absence of an information seeking culture has continued to impede progress towards achieving universal access. Blind deployment of technology without complete evaluation of factors that influence user acceptance behavior is one of the major issues that need to be addressed because of the region's unique culture. Socio-cultural settings, accessibility, availability of infrastructure, are important factors in technology acceptance and account for variation in user behavior. The fact that the internet provides a rich source of information and it is effective for communication does not mean we should focus mainly on the internet based technology. After all, how many people have the luxury of one meal a day, not to talk of the luxury of electricity and clean water. Introduction of new technologies and the efficiencies that are meant to come with them require the hiring of expatriates. In most parts of Africa, issues of tribal affiliation often create skepticisms which lead to resistance

and underutilization of such new technologies. Users tend to be more satisfied with technology adapted to their culture. (3)

Open Source Software Development and Usage in Africa

One area that may have a big impact on Information Technology in Africa is Open Source Software. The use of Open Source Software will help bridge the technological gap at an acceptable cost. Open Source Software (OSS) development and usage continues to grow in Africa as institutions look for viable alternatives to expensive proprietary software. Governments in Africa must consider Open Source Software as a serious alternative to commercial licensed software just as Brazil did in 2000, not only as site for implementation for the software, but more importantly as propagators of the philosophy behind the Open Source movement.

In adopting the Open Source approach, governments, organizations and end users must ensure that the implementations will produce value. They should also ensure that they have adequate capacity to implement, use and maintain and have meaningful and strong policy support. There are several initiatives to promote the use of Open Source Software.

The Free Software and Open Source Foundation for Africa (FOSSFA) (http://www.fossfa.net) was launched on 21st February 2003 in Geneva during the WSIS PrepCom2 meeting. The Foundation's work was to focus on three thematic areas:

1. Open Source in Government
2. Open Source in Health
3. Open Source in Education

Free and Open Source Software benefits, among others will include:

- Reduced costs and dependency on imported technology and skills.
- Affordable software for individual, enterprise and government.
- Access to government data without barrier of proprietary software and formats.
- Ability to customize software to local languages and cultures.
- Lowered barriers to entry for software business.

The RULE (Run Up to-date Linux Everywhere (http://www.rule-project.org) project is aimed at creation of a very light Linux distribution for schools and other organizations in developing countries that cannot afford modern computers systems. The Ubuntu, sponsored by Canonical Ltd, owned by South

African entrepreneur Mark Shuttleworth . (http://www.ubuntu.com) aims at providing an up-to-date yet stable operating system for the average user, and features a strong focus on usability, regular releases, and ease of installation.

African Virtual Open Initiatives and Resources – AVOIR (http://avoir.uwc.ac.za) project is an initiative that is developing open source software engineering capacity through a network of African universities to support capacity building in Free and Open Source software engineering.

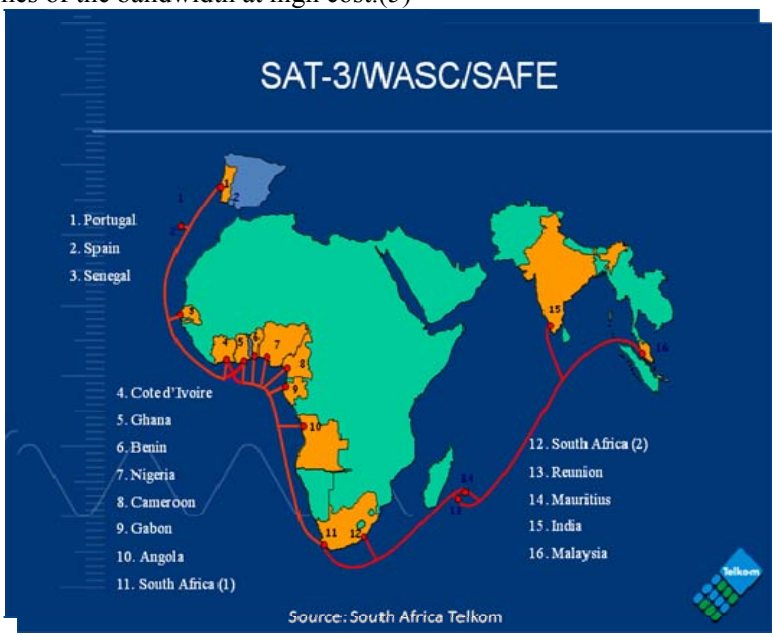
Open Medical Record System (OpenMRS) (http://openmrs.org) is a community-developed, opensource, enterprise electronic medical record system framework intended to aid resource-constrained healthcare environments.

To date, OpenMRS has been implemented in several African countries, including South Africa, Kenya, Rwanda, Lesotho, Zimbabwe, Mozambique, Uganda, and Tanzania Aspiration project (http://www.aspirationtech.com) connects and strengthens virtual communities of nonprofit users and developers through the *Social Source Commons*, a platform which maps out and documents available software tools and related information resources for nonprofit and profit organizations.

The Prospects for Fiber Optics Initiatives in Africa

Several initiatives have been taken to connect the African continent with submarine fiber optic cables to enable Africa countries to have access to the international telecommunication market The first of such initiatives is Southern Africa Telecommunication/West Africa Submarine Cable/ South Africa-Far East Project (SAT3/WASC/SAFE) (4) which is a large-scale international fiber link in Africa which connects the continent to Europe and the Far East. The SAT-3/WASC's first segment

connects Portugal to the Cape in South Africa, reaching eight costal countries along the way: Senegal, Ivory Coast, Ghana, Benin, Nigeria, Cameroon, Gabon and Angola. A second section, in the Indian Ocean, connects South Africa to Malaysia while passing through Mauritius and India (SAFE).This project is expected to bring down bandwidth cost; however, this has failed to achieve the desired results because it is operating as a cartel of monopoly state-owned telecommunication providers who charge exorbitant prices. It is estimated that only 5% of the potential SAT-3 capacity is currently being used. The SAT-3 consortium made its money back in five years because it chose to sell low volumes of the bandwidth at high cost.(5)



A new project, the *Eastern Africa Submarine Cable System* (EASSy) to connect countries of eastern Africa via a high bandwidth fiber optic cable system to the rest of the world is under way and is expected to be completed by late 2008. EASSy is planned to run from Mtunzini in South Africa to Port Sudan in Sudan, with landing points in six countries, and connected to at least five landlocked countries. The 9 900km EASSy cable will complete the fiber loop surrounding Africa thereby eliminating the reliance on expensive satellite systems to carry voice and data services. It is considered a milestone in the development of information infrastructure in the region. The implementation of the project is slow and is causing frustration among some governments in the region because stakeholders, investors and governments are divided on the issue of access and pricing. Telkom, a major EASSy stakeholder, has threatened withdraw from the project, as it may be forced to reduce the fees it charges rival operators to use its bandwidth on SAT-3.

Since its inception in 2002, The SAT/WASC/SAFE project has created many opportunities for African countries. The project enhanced access to Information Communication Technology (ICT) services among the beneficiary nations. For example, increased access to bandwidth on the broadband Internet has enhanced speed of transmission of data, voice and other interactive multimedia applications in countries like Cameroon, Ghana, Nigeria and Senegal. According the International Financial Corporation research, the SAT/WASC has created an enabling environment for the four countries, allowing for achievements in network consulting, system administration, software production, and data processing industries, among others.(6) Despite the advances in fiber connectivity in recent years, the cost of bandwidth still remains high because the projects are controlled by a cartel of private and state-owned communication providers who maintain a tight monopoly over its operations.

(http://www.nokiaphoneblog.com)
The East African Submarine System and access loops to landlocked countries
Source: WBG Regional Communications Infrastructure
Briefing Note, Sept., 2005

Mobile Phone Technology Improves Communication in Africa.

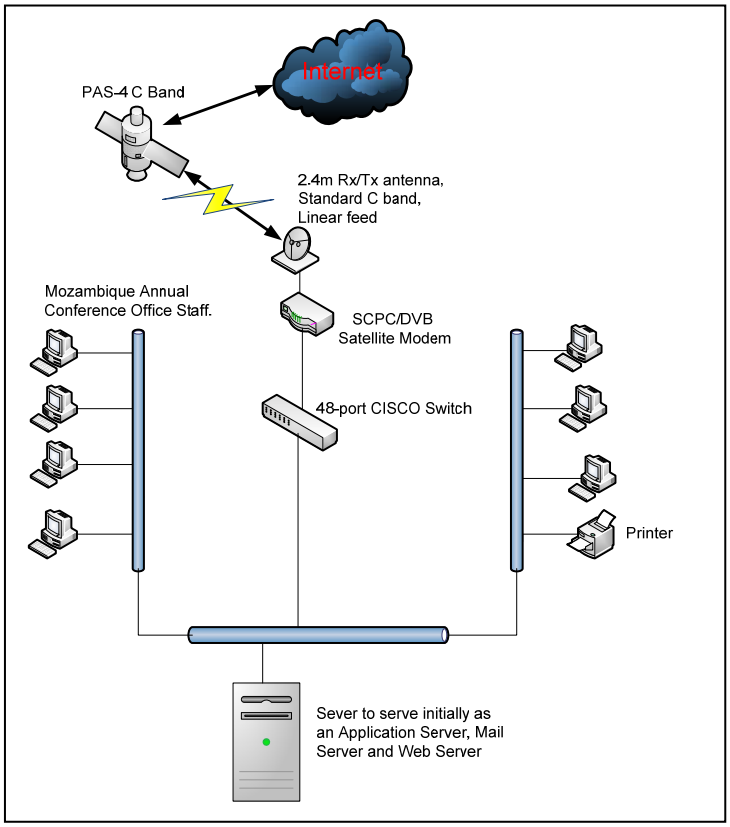
In a two-day summit on improving Africa's information technology infrastructure held in Rwanda recently, Hamadoun Touré, the Secretary General of the United Nations International Telecommunication Union (ITU) emphasized that African leaders are now creating the right regulatory environment.(7) One area that is seeing dramatic improvement is the mobile phone technology. In the past few years Africa has seen a dramatic jump in telephone density. In the past three years, Africa has had the highest growth in mobile use globally which is estimated to be twice the global average.

According to 2006 Cell Phone Statistics published by Times of Refreshing Ministries (8), out of the 2.4 billion cell users in the world, 59 percent of them live in developing countries, making cell phones the first telecommunication technology in history to have more users there than in the developed world. In Africa, there are 94 new subscribers per minute compared to 46 new subscribers per minute in North America.

United Methodist Church Information Technology Projects in Africa

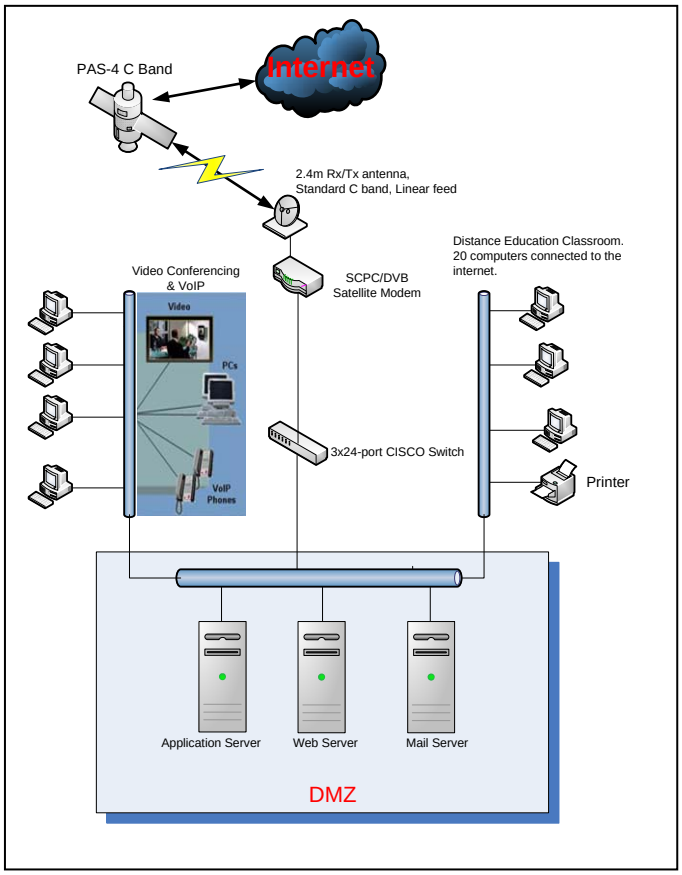
A pilot project in Mozambique, sponsored by the General Board of Higher Education and Ministry, in co-operation with United Methodist Communications, is scheduled to start operation in March 2008 with Africa University serving as the anchor institution to offer online courses in MBA, CISCO Network Training, and Basic Computer Literacy (popularly known in Africa as International

Computers Driver's License (ICDL)). Phase I which consists of a computer/classroom lab with 15 workstations and a server, audio visual equipments, networking equipments, a library with 3 workstations, internet connectivity using VSAT technology are in place. In addition the entire office building of the Annual Conference has been networked. In co-operation with United Methodist Communications, the Annual Conference will have their own domain name and a web server to publish activities of the Annual Conference. A mail server to provide the staff with individual email addresses to facilitate intra/inter office communication has also been set up.



Mozambique Distance Learning Project.
Network Topology Layout : Phase I

Phase II of the project will provide video conferencing capabilities, VOIP telephony, and also connect the other church centers in the Annual Conference. Feasibility studies for a similar project have been completed in Cote d'Ivoire, Nigeria, Sierra Leone, Liberia, and the Democratic Republic of Congo. A visit to Angola and East Africa has been planned to conduct similar feasibility studies.



Mozambique Distance Learning Project.
Network Topology Layout : Phase II

Through the initiatives of the MGEFLD, and when funds are available, similar infrastructure as in Mozambique will be set up in the various Annual Conferences to get them all wired and connected and be ready to offer online courses in Pastoral Training, Leadership Training, English as a Second Language and other relevant academic courses with Africa University serving as the anchor institution. Church activities in Africa with regards to education have in the past, by other denominations, been focused on the "brick-and-mortar" type of set up. In this age of Information Technology, the directions taken by the church to reach a broader audience to fulfill its mission and objectives through the use of technology will have a significant impact on improving information technology in Africa.

Conclusion

Challenges of the information age revolve around the twin concepts of globalization and the information age which embody social, economic, political, technical, and cultural processes and access to Information Technology (IT) and Information and Communication Technology (ICT), and policy development in general. The ICT problems in Africa and their solutions vary from country to country, therefore, countries must work together to find a way of improving ICT developments in Africa. Countries must come out with clear policies in order to incorporate the development of ICTs successfully into national strategic plans which will lead to improvements in the infrastructures and easy access. Any effort to improve the ICT infrastructure in Africa must focus first on the development of the telecommunications infrastructure as seen from the various submarine fiber connectivity projects.

High bandwidth cost remains a major problem despite recent advances in various fiber connectivity projects. Efforts should be made to break the tight monopoly held by various telecommunication companies and governments to allow expanded access to this infrastructure, thereby, reducing dependency on satellite technology.

Use of Open Source Software will help bridge the technological gap at an acceptable cost. Governments in Africa must consider Open Source Software as a serious alternative to commercial licensed software, not only as site for implementation for the software, but more importantly as propagators of the philosophy behind the Open Source movement.

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Social Ethics for New Technologies: The Case of DuPont in Brazil.[1]

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Abstract

This presentation argues that the conditions for arriving at sophisticated ethical decisions should allow for multiple inputs from various stakeholders. In this case, ethics is considered as a social process rather than an individual question of integrity. The case of DuPont shows how the commercialization of the new technology of genetically modified organisms has produced controversy in which each interest group attempts to win the battle either for or against the new technology. Each interest group or stakeholder is limited by its position and particular interest which also limits its ethical stance. The article proposes a policy of forums and instances for negotiations and discussions among stakeholders as a way of achieving a more complex and adequate ethical decision.

Introduction

Rapid advances in technologies and their commercialization have provided little time for thoughtful consideration of their ethical implications. Net technologies, biotechnologies, and robotics are a few of the areas of development whose products could significantly change the way we relate and communicate with each other, work and use natural resources, thereby forging us into uncharted ethical spaces. In an effort to provide a framework for thinking ethically about new technologies, I would like to offer a case study which examines the ethical dilemmas brought on with the introduction of a new biological technology. While biological technologies differ widely from other new technologies, they bring up some of the same basic questions regarding ethics. The emergence of these new technologies requires us to revaluate theories on ethics and ask questions regarding the proliferation of these new products and practices associated with them. How should businesses proceed when laws or guidelines do not adequately address the issues or the new circumstances produced with these technologies? Is there a difference in how developing countries might view and make use of these new technologies in comparison with northern countries? What procedures should governments, social movements, scientists, and businesses follow when developing and approving new technologies? What are the new issues that arise as these technologies develop?

My conclusion in this case study speaks to new technologies in general. If we are to develop sophisticated ethical decisions, we must consider ethics as a social rather than individual process. This does not mean that ethics is not an individual matter. To be sure, our Methodist-related colleges and universities are focused on forming ethical young adults as part of their mission and such efforts should be applauded and supported. Integrity and high ethical standards is an individual developmental goal

[1] This paper is based on a previous articles by the author: Griesse, Margaret . Developing Social Responsibility: Biotechnology and the case of DuPont in Brazil. *Journal of Business Ethics*. 73: 103-118, 2007.

(Kohlberg et.al. 1983). However, we cannot depend on individual ethics when developing social policy on new technologies. While in the United State we often celebrate the ethical hero who goes against the grain to do what is right, we cannot expect the company CEO, the government official or even the community activist to transcend their personal or group interests and make decisions based on the greater good. Rather our task is to create conditions for ethical decision making whereby all interests are evaluated and consensual proposals are developed. In what follows, I will present the controversy over genetically modified seeds in Brazil to exemplify the complexities of this process.

Stakeholder Analysis of Genetically Modified Organisms in Brazil

The controversy over genetically modified seeds (GM seeds) in Brazil can be divided into two basic issues. The GM seeds that we are discussing in this article are those which cannot be produced in nature. While human kind has been producing hybrid seeds for centuries, new biotechnologies offer us seeds that cannot be produced through natural means. The introduction of new agricultural biotechnologies has raised a number of concerns regarding the safety of the product for human or animal consumption, the effects the product might have on the environment, and the moral question of patenting seeds. Second, only large multinational corporations have been able to make the required investments for research and commercialization. This has resulted in only a handful of companies owning most of the patents on these organisms. DuPont, for instance, has the largest number of patents of GM seeds. Proponents have argued that the use of these seeds will stimulate agricultural development, provide more abundant harvest, offer nutritional benefits and diminish the use of agrochemicals. Others argue that the control over cultivation and food supply by just a few companies will inhibit free choice and stifle innovation.

A stakeholder analysis of this controversy reveals a number of interest groups: Brazilian agribusiness, ecologists and farmers; DuPont and other GMO seed companies; consumers; scientists and academic institutions; civil society organizations; foreign markets. In what follows, we will examine the position of each one of these groups.

Brazilian agribusiness

The most prominent player in this scenario is Brazilian agribusiness. Agriculture is responsible for 33 percent of the Brazilian GNP, 42 percent of total exports, and 37 percent of all jobs. Brazil is the world's primary producer and exporter of coffee, sugar, alcohol, and fruit juices. It is second only to the United States in soybean production. Unlike the United States and Europe, Brazil has high potential for growth in agriculture. Projection indicates that it will become a primary producer of cotton and biofuels made from sugar cane and vegetable oil. Other agricultural products include corn, rice, fresh fruits, cocoa, and nuts (Ministério da Agricultura, 2004). Thus agribusiness plays a pivotal role in the Brazilian economy.

Farmers

Individual farmers are interested in the high productivity that the GM seeds promise as well as the reduced price in nontoxic agrochemicals that are coupled with the seeds. Before GM seeds were allowed in Brazil, many farmers were found smuggling seeds from nearby Argentina. In some states, farmers have agreed to stay away from GM crops in order to find a market niche. Those against GM seeds argue that farmers will become more dependent on large transnational corporations because they will be induced to continually buy the seeds and corresponding agrochemicals from the corporation. Along with this, farmers are required to pay royalties on the intellectual property rights of the

seed. This technological package may be too expensive for small farmers who would be forced to leave their farms causing increased rural exodus, unemployment and social exclusion. Along with this, farmers who replant seeds without paying royalties are subject to fines. (Guerrante, 2004). Proponents argue that fewer toxic materials will be used on GM seed crops, thereby favoring the environment. GM crops will result in lower costs to farmers because they will not have to pay as much for agrochemicals. Higher production and the ability to cultivate land that was previously inadequate for agriculture are other potential benefits of GM seeds (Brazilian Association of Biotech Companies, 2006).

Ecologists

Ecological concerns have also entered into the debate. Brazil is believed to contain the richest sources of genetic and biological diversity in the world. Estimates indicate that the Brazilian territory holds 10 to 20 percent of the world's total plant and animal species (Mittermeier et al., 1997). Despite these numbers, this diversity is largely untapped, while agriculture is primarily done with non-native species. To protect its biodiversity, Brazilian legislation has enacted laws regulating plant security, agricultural policies, rights and obligations of industry, crop protection, exotic species importation prohibitions, protection of the forests and fauna and crimes against the environment (Medina, 2002). Brazil is also part of the Convention on Biological Diversity and signed the Cartagena Protocol on Biotechnological Security, which was ratified in 1994. The Protocol calls for the creation of a national strategic plan on biodiversity.

DuPont

The interests of DuPont are closely related to the commercialization of GM seeds. Since 1999 DuPont has been investing in life science products and has acquired the largest number of seed patents. This has not always been an area of interest for DuPont, which has gone through a number of transformations during its 200-year-old history. A brief look at the history of DuPont, offers us a better understanding of who this stakeholder is.

DuPont was founded as a gunpowder manufacturer in 1802 and became the leading supplier of black powder to the U.S. government by the beginning of the War of 1812. During the Civil War, it supplied almost forty percent of all powder to the union. In 1880 DuPont began experimenting with other types of explosives and by 1920 it was the world's leading producer of dynamite and the largest supplier for WWI. In addition to military purposes, DuPont explosives were used by the mining and railway industry during the United States westward expansion (DuPont, 2003). In 1912, an antitrust suit against DuPont's monopoly on explosives pushed the company to turn increasingly from explosives to chemicals, with a variety of products such as synthetic textile fibers, paints, varnishes, plastics, and heavy chemicals. In the 1940s the corporation launched an advertising campaign to promote DuPont's contribution to daily life with the slogan "Better Things for Better Living . . . Through Chemistry." (ibid).

However in 1962, Rachel Carson's *Silent Spring* shocked the world with its revelations on the chemical contamination of the planet. It described the harmful effects of herbicides and insecticides, many of which DuPont was producing. Protests against the use of herbicides in Vietnam targeted the United States government and chemical companies. By the late 1990s, DuPont sought to reinvent itself once again by changing its focus from a chemical to a life-science company. DuPont's slogan was changed to "Miracles of Science" which could incorporate a sustainable development message (DuPont, 2003). In 1999, after a joint venture with Pioneer Hi-Bred International, Inc., DuPont bought the company outright for US$7.7 billion, thereby acquiring the world's

largest seed company, which produces hybrid corn, soybeans, alfalfa, canola, and wheat (DuPont, 2003; Guerrante, 2004). In 2003 Dupont and the Bunge Company entered upon a joint venture with the formation of the Solae Company. The new company specializes in nutritional products, particularly proteins in soybeans and lecithin. In 2005, DuPont and Tate & Lyle formed a joint venture to build a plant that would use a polymer made from genetically modified corn in place of the petrochemical-based polymer used in clothing and carpeting, and plastics.

DuPont has also striven to present itself as an ethically responsible company. It is a founding member of the United Nations Global Compact and is moving to be in full accordance with the Global Reporting Initiative Guidelines. It is also member of the Responsible Care Initiative which consists of a formal commitment to a set of guiding principles to reduce negative impact on the environment, workers and the general public. It includes codes implementation checklists and performance indicators as well as the agreement to communicate to outside parties, share views and strategies with other industries and encourage others to join (Munn, 2000).

While DuPont's trajectory shows the ability of a large company to respond to new demands and new contexts, it also shows the importance of government and civil society associations in shaping the development of the company. Public opinion defining DuPont as "merchants of death" (DuPont 2003) due to their involvement in the war efforts pushed DuPont to change its image from that of an explosives manufacturer to a chemical company developing consumer products. Later criticism of its environmental record as a chemical company caused it to delete the tag in its slogan "through chemistry" and reconsider its environmental precautions as well as its products (DuPont 2003). Accusations of "green washing" (Bruno 1997) and other chemical disasters spurred DuPont to adopt the Responsible Care initiative. Although DuPont admits it must dialogue about its mistakes (DuPont 2003), communication has often been initiated through bad publicity, lawsuits, and activist finger pointing; in other words, corporate social responsibility did not initially emerge from within the company but due to pressure from outside.

Consumers and residents

Initially GM seeds did not offer direct benefits for consumers since seeds were geared toward farm production and limited use of agrochemicals. Nevertheless, consumers and residents have become an important voice within the discussion on GM seeds. Consumers are interested in price reduction and also the possible health concerns related to the consumption of GM seeds. More recently GM crops offer special dietary benefits for consumers such as higher quantities of vitamin A or proteins. We might ask whether consumers are prepared to make a decision on the safety of such products – especially consumers in developing countries who might not have access to information, lack the educational background to understand the scientific aspects of the discussion, or are inclined to simply buy the cheapest product. Indeed, the scientific knowledge required to evaluate the technology of each seed and its effects is extremely sophisticated, and is largely beyond the grasp of the lay public. If scientists cannot agree, how can the lay person make an informed decision?

Scientists and academic institutions

Scientists are divided on the advantages of GM seeds. Some have actively participated in the development and promotion of these seeds. They argue that agriculture continues to be a primary importance to the Brazilian economy and that encumbering the use of advanced technologies in agriculture, through overly cautious legislation and bureaucracy, will compromise Brazil's ability to compete within a globalized market and severely hinder

economic development. They also argue that the discussion on GM seeds has become overtly ideological, where anti-imperialist jargon has invaded talk on the particular qualities and benefits of a product Such tendencies only work against the development of good science and good public policy (Brazilian Association of Biotech Companies, 2006; CIB, 2004). Other scientists question the need for GM seeds. They argue that GM seeds could pose health risks that have not been adequately studied and they charge that transnational organizations have not given consumers sufficient information concerning their product. GM seeds could provoke a loss in the genetic diversity in agriculture, putting crops more at risk since single characteristic crops will be unable to withstand differing pests and conditions. They can genetically pollute other organisms and lead to the generation of "super pests" as well as killing off insects that are beneficial to agriculture and affecting microorganisms in the soil. Scientists also argue against the control of food production by just a few industries and cite the need for social and political changes to meet our needs (Clarke and Inouye, 2002, Greenpeace, 2004; Inouye, 2003, Shiva, 2004). The credibility of scientists has also been put into question by examining their funding sources. In general industrially funded scientists favor GM seeds while those funded by activist organizations criticize this technology.

Civil society organizations

Civil society organizations such as Greenpeace, have been the strongest opponents of GM seeds. The campaign, "For a Brazil free of transgenics," has argued that there is no technical regulation for the secure use of these products and include the list of criticisms outlined by scientists who criticize GM seeds. The advent of the Internet and other means of advanced communications have made it possible for activist groups to disseminate their ideas concerning environmental and social issues to other countries and forge alliances with local organizations that are also developing local popular support. In criticizing industry, international groups have had the resources to publish on-line studies, set up Web sites, and instigate lawsuits. However, international organizations have also been criticized for not perceiving the full complexity of local situations, for putting their cause before concern for the local people involved and for usurping local power (Khan 2005).

Global market

The global market is a major influence. As long as other countries are importing GM-free products, there will continue to be a market for traditional cultivation. But should the market for GM products increase, economic contingencies could be the most decisive factor in the release of GM crops onto the market. Unlike European countries, Brazil depends on its agricultural exports and is not in a position to neglect a technology that would offer it a more productive advantage. Should the decision be left up to market demands?

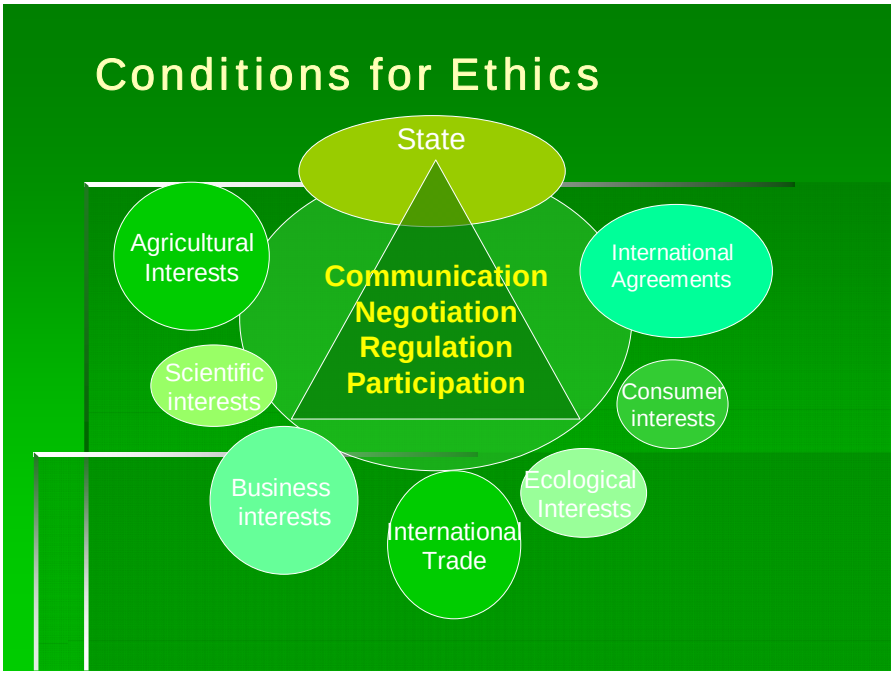
Each of the stakeholders involved in this discussion presents a limited and restricted ethical perspective. Who can we trust to make a decision? DuPont who has invested billions of dollars on this technology could hardly be expected to transcend its position and make a neutral stance on the benefits or dangers of GM seeds. The Brazilian government is divided with the ministry of agriculture strongly promoting the release of these seeds while the ministry of ecology strongly opposes it. The scientific sophistication needed to analyze these concerns is beyond the reach of most consumers. Civil society organizations such as Greenpeace have been criticized for the exaggerated and simplistic slogan and dogmatic stance. Farmers are interested in their own survival and profit. Scientists often have tunnel vision in focusing in on only a particular aspect of a product without taking a look at the overall consequences. It appears that we

cannot count on any one group to provide an informed, neutral ethical position. What are our options?

Social Ethics for New Technologies

As we have seen in our case study, each stakeholder brought an important but ethically limited perspective to the issue of GM seeds. This situation produced an ethical dilemma which needed to be solved. Realistically, we cannot expect that stakeholders will automatically engage in meaningful partnerships or collaborate as a unified group toward national or international development. What we find in Brazil is the participation of various interest groups, each with an ethical position limited by its own particular agenda in the arguments that they bring to the public sphere. Those with the strongest voice will likely win.

The issue of GM seeds has raised new questions beyond safety, transparency, and environmental and social stewardship. Or rather, it has brought to the surface old questions that have to be asked all over again. Beyond the issue of whether a particular technology can benefit society or not, we could ask: What should our priorities be? What are our needs? How should we respond to these needs and priorities? How much power should any one organization, corporation, or industry have? Who should decide these questions?



Our conclusion continues to promote the development of public spheres for the discussion and development of public policy for new technologies whereby particular and limited interests are allowed to express their view within conditions of participation and negotiation. By providing forums for each interest group or stakeholder to voice their concern, we can create spheres for sophisticated ethical decision making. These spheres can occur at various levels.

- Companies could engage governments, academic institutions, and civil societies as well as international organizations during the research phase so that product development is grounded more closely to needs.

- Companies should locate their research and development branches also within southern countries so that their needs and conditions are included within product development.
- A superfund could be developed by industry to provide independent research on new technologies.
- By forming associations, organizations, governments, and industries could attempt to foresee parallel problems (i.e. logistics, segregation of products, etc) before these problems become urgent.
- Educational programs for users of their products and the dangers involved could be more strictly enforced.
- Through more cooperative efforts in the development of technologies, new products would be discussed in their inception and development rather than their commercialization.
- Academic institutions provide excellent spaces for discussion, negotiation and participation.

These strategies require not only cooperation from industry but also from governments and civil organizations. This process of negotiation and dialogue provides the conditions for each stakeholder to defend its case and also to force the other to reconsider and to become more sophisticated in its response so that an adequate solution can be found to the question of new technologies and their corollary issues.

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Elements of Net Business Ethics – An Introduction

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Abstract

Internet and Internet-based activities now have a great influence on the daily lives of individuals, organizations, and civilizations at large, as the purpose and subject of the workshop iBiZ2008 show (http://www.gsim.aoyama.ac.jp/ORC/iBiZ2008). Most of the functions and services on the Internet are provided by commercial companies. Their workplace and market is now global. There are always new topics and new affairs which need to be addressed and solved. We seem to be challenging ourselves in a huge experimental laboratory named Earth. There are several points to consider.

1. Who owns and controls the information available on the net?
2. How can we evaluate the dark and bright side of technology, and live with it?
3. How much must everyone know about the characteristics of technology to have enough literacy and security?
4. How can we share and control the risks of using new technologies which are sometimes not well managed?
5. And, how can we use the bright side for our mission and how can we care for each other?

In the presentation, several video clips were shown, such as the clips on Google, India, Vietnam, and so on. The author also introduces the current software crisis, caused by the shortage of skilled engineers. We also refer to the episode of Babe and the bible story around three persons and their talents.

Introduction

Net Business Ethics is an emerging concept to create. It has several aspects:

1. International Business Ethics
2. Internet Ethics
3. Information Ethics

This paper introduces the elements we need to think about before discussing the details on the issue.

International Business Ethics

The issues surrounding international business ethics were discussed before the Internet was invented and became a part of daily usage. There are several text books on Business Ethics which address the issue of international business ethics.

One example of this is: *Ethics and the Conduct of Business*, John R. Boatright, Prentice Hall, 2007, "Chapter 14 International Business Ethics" pp 404-440 . “When in Rome, do as the Romans do” is one of the key phrases in the chapter. The phrase holds that there is a local culture to admire, so any visitors should become familiar with it and follow the culture there as best as possible. A important lecture can be taught using the sentence “when in Rome, do as the Romans do.” It introduces moral rights shown in Table 1.

Table 1. Ten Rules by Donaldson for moral rights

1. The right to freedom of physical movement
2. The right to ownership of property
3. The right to freedom from torture
4. The right to a fair trial
5. The right to nondiscriminatory treatment

6. The right to physical security
7. The right to freedom of speech and association
8. The right to minimal education
9. The right to political participation
10. The right to subsistence

And for the behavior of multinational companies, seven guidelines are introduced (Table 2).

Table 2. Seven Guidelines by Richard DeGeorge

1. Multinationals should do no intentional direct harm.
2. Multinationals should produce more good than harm for the host country.
3. Multinationals should contribute by their activity to the host country's development.
4. Multinationals should respect the human rights of their employees.
5. To the extent that local culture does not violate ethical norms, multinationals should respect the local culture and work with and not against it.
6. Multinationals should pay their fair share of taxes.
7. Multinationals should cooperate with the local government in developing and enforcing just background institutions.

Internet enables even traditionally domestic business firms to do "global" business easier. It can immediately introduce to users a global world and international matters. No one can be ignorant of the basic guidelines for international business conduct, when he/she is capable of accessing web sites and e-mail facilities. And for the author, there does not seem to be enough guidelines available for international business in the information age yet.

The Internet brought us a very flat structure for daily life. A symbolic expression in the literature is from *The World is Flat* by Thomas Friedman. Here is the quote.

> *…but by 2000, they sensed that they were in touch with people they'd never been in touch with before, were being challenged by people with whom they had never been challenged before, were competing with people with whom they had never competed before, were collaborating with people with whom they had never collaborated before, and were doing things as individuals they had never dreamt of doing before.* (in chapter 3 The triple convergence) From *The World is Flat* by Thomas L. Friedman

To start the discussion, we need to know how every region of this globe understands the Internet.

Internet Ethics

This issue is mainly a technical and technological issue which needs to be addressed by every individual, business firm, and organization. Also it includes ethics for businesses that utilize the characteristics of the Internet. At the same time, it also gives a new power to individuals. "People like to upload, and that is why of all the ten forces flattening the world, uploading has the potential to be the most disruptive." (in chapter 2. The ten forces that flattened the world, Force 4, The World is Flat), or "In time, individuals will have the power to find anything in the world at any time on all kinds of devices – and that will be enormously empowering." (in chapter 2. Force 9, ibid) The basic concept of the author to address this issue was introduced in the keynote talk at IAMSCU 2005 in Adelaide, which dealt with globalization.

There are various pros and cons on the use of the Internet. And, there exists certain characteristics of the Internet which are essential to its nature and necessary for it even to be called the Internet. We cannot change the nature ad hoc. Continuity between real space and cyber space is one of the key issues to address for Internet business. And there are virus problems, spam mail problems, phishing problems, bad web sites, and so on. There will be great differences between cases which utilize the bright side of the Internet and cases which use the dark side. So, there IS an ethics issue.

Another important factor is the fact that currently we are short of good software engineers so that we are facing the issue on quality of software applications used in daily life. If low quality software engineers are related with software development for social infrastructure applications, the resulting systems may become unstable and un-ethical. The author also wants to introduce the current software crisis, caused by the shortage of skilled engineers. This may easily cause a new type of pandemic, I am afraid.

Information Ethics

If you don't know it, you are afraid of it. If you don't know it, you think it is a panacea. If you don't know it, you can easily be a victim. Now information itself is of critical importance in various aspects.

This is related with several fundamental issues on "what is the essential concept of Information?" Information is basically "data with semantics". Data is material to use, which is neutral. Information requires 'will' or 'meaning' of the user to make it significant. So, here is the place for ethics to lead.

Business Ethics is one of the important fields for theology to address. This is one of the important reasons why this workshop is being held. If the Internet can offer a universal framework for global business, we can instantly imagine a famous episode in the Old Testament, the tower of Babel.

> *They said, "Come, let us build ourselves a city, and a tower with its top in the heavens, and let us make a name for ourselves." The Lord said, "Look, they are one people, and they have all one language; and this is only the beginning of what they will do; nothing that they propose to do will now be impossible for them."* Genesis 11. 4 - 5.

Is the introduction of the Internet a distortion of human capacity? God broke the union for the tower of Babel by breaking people's ability to communicate with each other. Thousands of years later, we have the Internet as a platform to communicate and collaborate. And it is now easier than ever for individuals and organizations to start global projects.

The other episode we can easily remember is a person who received one talent. If all of us say 'the matter is only for technology and we are not related,' then progress is considered as a vehicle without a driver, and we just ride such a car with fear. We do not think this is an appropriate attitude for us.

> *"Master, I knew that you were a harsh man,... so I was afraid, and I went and hid your talent in the ground. Here you have what is yours."*
>
> *"You wicked and lazy slave! So take the talent from him, and give it to the one with the ten talents."*

So, we like to listen to what theologists say.

Here is a set of very basic questions to share. Internet has enormous opportunity, but we need to protect ourselves.

- Do you list your Email address on Web pages?
  - Do you advertise your home address and phone number to the public?
- Do you open every direct-mail sent to your house and read it?
  - One-to-one marketing for the company side
- Do you stand in front of someone's house and look into the house?
  - Your actions in the web pages are traced and recorded, and analyzed later

From Some Hot Spots

Meanwhile, we like to keep up on what is going on around us. Here is a set of three stories. One is on "Who has control over the Internet", another is on "The Global Value Chain, Close relations of the multiple-nation Economy", and the other is on "Impacts of the applications of IT to daily life, education."

Below the author will introduce the news on "Microsoft proposed buyout of Yahoo" as an example of the issue for "Who has control over the Internet." This news is from February 2008 and

still happening. The author will also introduce the news on “Fatal amount of Poison found in Frozen Pot Stickers made and packaged in China” as an example of the issue for “Global Value Chain.” This news is from January 2008 and still happening. It is an issue on quick news delivery and sharing. The author introduces the news on “Net-Addicts Cure Centers established in China” as a source to discuss the combination of the second and the third.

Search engine holding all data

Microsoft is the largest company in the IT industry. Most of the desktop PCs are based on the Windows operating system and we frequently use Microsoft Office software for daily desktop work. For example, “Send me your ‘PowerPoint’ file,” is one of the typical phrases among computer users. It originally means “Send me presentation slides” but the first phrase includes a specific product name – PowerPoint. This power comes from Microsoft’s ability to control the market, while we admit that it was a result of a business effort by Microsoft to provide people with a better functioning product and provide better customer service.

At the same time, Internet offers a different paradigm of business that research should address. Microsoft is not a winner of the whole game. One of the biggest issues is the World Wide Web (WWW). WWW is a global system which gathers EVERY available piece of information through the web and provides such information individually and collectively. The search engine is one of the cases for collective information providing schemes. One of the famous players is Google. And then Yahoo, Microsoft and others are working in this field.

Microsoft was established in 1975. Its annual sales is $51.1B, annual profit is $14B. While, the net business sales is $2.4B, and their loss is $0.7B. Google was established in 1998. Its annual sales is $16.5B, annual profits is $4.2B. So, for the net business, Google is larger than Microsoft and seems to be operating in the black and with good result. The other important player is Yahoo. Yahoo was established in 1995 and its annual sales is $6.9B, while the annual profit is $0.6B which is currently smaller than Google. (Yahoo Japan which is 33% owned by US Yahoo has annual sales of $2B, and annual profits of $0.5B.) Bai Du in China whose annual sales is $0.1B and others are believed to have growing capabilities to compete with the bigger search engines later.

The hot news in this area in January 2008 is “Microsoft is proposing to buy out Yahoo.” The news has lots of different impacts on related business firms. Google is definitely a global leader of the search engine business, now it has a huge amount of data inside its huge servers. Even the government asks Google about the latest information on a specific area. The market share of Google is 62.4%, while Yahoo 12.8%, Bai Du 5.21%, and Microsoft 2.9%. The search engines now become a new type of encyclopedia. The search engine is believed to be a flag carrier of net business. If Microsoft buys Yahoo, it is possible for Microsoft to be a leader in various areas of IT. We do not know whether it is a right thing or not.

Global value chain

Now everything is connected using global communications lines. As Thomas Friedman indicates in his book , *The World is Fla*t, “So no sooner does your arm lift a product off the local Wal-Mart’s shelf and onto the checkout counter than another mechanical arm starts making another one somewhere in the world.” (in chapter 2 Force 7) Furthermore, even in service industries, he says “In 2003, some 25,000 U.S. tax returns were done in India. … In 2005, it was roughly 400,000.” (in chapter 1. While I was sleeping) and “Woman operator in Bangalore giving directions as though she were in Manhattan and looking out her window.” (in chapter 1. While I was sleeping).” There are many other examples we can extract from his book to quote.

The most recent news in the category of the global value chain is about gyoza, dumpling, or pot sticker between China and Japan. Example 1 is an excerpt from Asahi.com:

Example 1. Dumpling distribution here said safe

> "Everything is automated for carrying the cargo in or out at the refrigerated facility," the official said. "No one gets in unless there's a need for maintenance."

At the Hanamigawa Co-op outlet in Chiba, one box each was delivered on Dec. 6, 11 and 17. A mother and a daughter were sickened on Dec. 28 after eating gyoza purchased from the store.
The Co-op's Ichikawa outlet received one box each on Dec. 10, 13 and 17. A family of five in Ichikawa fell ill after eating gyoza from the store on Jan. 22.
In Hyogo Prefecture, methamidophos was detected in gyoza that sickened three on Jan. 5, as well as from six other packages.
The Co-op gyoza made on Oct. 20 and the JT Foods products produced on Oct. 1 are known to have been kept in the same refrigerator at the Tianyang plant for four days until Oct. 23.
Whether they were in the same locked partition is not known. Their paths never crossed thereafter. (IHT/Asahi: February 6,2008)

This issue first shows how China and Japan have close relations in the exchange of daily goods. Secondly, it shows a poison, methamidophos, was inserted somewhere in the value chain, and the difficulty to specify the location due to national boundaries, corporate secrets, and the small size of the objects to trace. Information on this matter still go around on the Internet and media, while there is no conclusion yet. We can share this news easily even in the US.

Identity in cyber space: education, net addicts, and crime

We belong to educational institutions, so education is always a concern to share. For the discussion on cyber space, we need to separate the issues for the user side and the developer/producer side. The underlying problem is whether the identity in cyber space is equivalent or the same as the identity of real space. We will discuss the net addiction and the victims of net crimes as issues for the user side. Many other issues around net business and Internet usage deal with network security. For the developer side, we will discuss the software crisis caused by the need to keep software engineer quality high.

For the net addiction issue, there have been various attempts to cure net addicts. At the workshop, the author demonstrated the video clip which shows the net addicts cure centers in China, primarily the part about re-uniting families. In other words, family value sharing is key to curing net addicts of the younger generation.

For the issue on net business identity, there is a very important case which has a very key part as a core. The whole story available from the Internet is attached as an Appendix. This case is a story of a young man in cyber space who is an older man in real space. He loved a young girl in cyber space who is an older women in real space. It caused a real crime. The girl got interested in another boy and the man killed the other boy in real space when they identified each other.

Attempts inside UMC

"Interpreter" magazine, September/October Issue 2007, focuses on "Ministry via New Technology creates old-time feelings." It has several important observations on their mission work. On page 21, it says "This social networking site, sponsored by Women's Division of the General Board of Global Ministries, started in June 2006. Features include personal profiles, live chats, discussion threads and the ability to share resources. … Said Julia Tullock, 'It's spiritual support. It's social support.'" From this magazine we can pick up several keywords like "Technology for All" (page 17), "Youtube generation" (page 19), and "Is your church Web site accessible for all?"(page 22). Yes, our church is not independent from Internet technology and the social lifestyle based on it, although it has not yet matured.

Conclusion and the Outline of the iBiZ2008 workshop

Constant and continuous awareness for net business ethics is in the author's list for important projects to carry out. The author understands the steps as follows:

Step 1: Cutting edge technology research and development
Step 2: Application of the technology in real life and evaluation

Step 3: Polishing it up to fit with reality
Step 4: Business deployment
Step 5: Diffusion of technology to different regions, such as developing countries or different business areas
Step 6: Involvement of all stakeholders including consumers

In many cases, step 1 and 2 are done by the technology provider side, and step 4 by the business supplier. The two groups do not always keep mutual communication throughout their own processes. And the most important stakeholder, namely the consumer, could not participate until now in this new technological phase of civilization.

For the iBiZ2008 workshop, the author wrote the following to describe its subject and the purpose: This workshop is part of a series of international conferences organized by the Open Research Center project at the Graduate School of International Management (GSIM) of the Aoyama Gakuin University, Japan. As the title indicates, this is a workshop with selected international experts, designed to be a starting point to discuss and share the concept of net business ethics. The organizers realize that there is no standard understanding of the net business ethics concept yet, therefore this workshop will serve to bring this topic to the attention of the international community.

The center of our concern is Information Technology, especially the Internet. The use of the Internet undoubtedly provides us with a wonderful new horizon for global communication and global collaboration. We now live in a virtually borderless world, and businesses make use of the new possibilities provided by the Internet. However, the Internet also brings about a series of problems that require further reflections on borderless ethics and responsibility for businesses. The national law enforcement of each nation is different and we have no international common understanding yet to regulate the use of the Internet. For our daily life, from children to senior citizens, from churches to commercial companies, from university research to hospitals, from government to individuals, few areas can function without the use of the Internet. A specific problem in one part of the world, the lack of global standards, the manipulation of data, the lack of privacy, and other issues can have a tremendous impact on our lives. What is our social responsibility in the context of these challenges?

Almost 20 experts from different fields joined, presented, and communicated for February 10 and 11 in Honolulu, with the support of IAMSCU, GBHEM, and COGEIME. It was wonderful moment. And the author like to his gratitude to Dr Amos Nasciment with and Dr Wanda Bigham to have jointly carried out the organization of the workshop program.
Hoping this event can serve for a new world social order and cohesion.

Appendix. An Episode for the separation of Cyber space and Real space

From http://familydynamics.wordpress.com/2007/11/29/online-love-triangle-leads-to-murder/
Online Love Triangle Leads To Murder
Posted by familydynamics on November 29, 2007
There has been so much media attention, centered around keeping our children safe from online predators. There has also been countless stories of people being murdered or scammed by someone they met online. The following story, however, gives new meaning to what happens when a delusional individual goes online:
A 48-year-old man caught up in an Internet love triangle was sentenced to 20 years in prison for killing his rival after being dumped by the woman they both competed for.
Thomas Montgomery of Cheektowaga, New York, pleaded guilty in August to the shooting death of 22-year-old Brian Barrett while he sat in a pickup truck shortly after work ended.
Montgomery had passed himself off as an 18-year-old Marine in online chats with a middle-aged West Virginia mother, identified as Mary Sheiler. Never mind that the woman herself posed as an 18-year-old student by using photos of her daughter. When she learned the truth about Montgomery, their online romance cooled and she turned her attention to Barrett.
Montgomery began chatting with the woman, identified in court as Mary Sheiler, in 2005. Occasionally, the woman would mail packages to his home. When one of the packages was

intercepted by Montgomery's wife, she wrote back, telling Sheiler her husband's true age and saying he was married.
Barrett, whom Montgomery had mentioned in his exchanges, was drawn into the triangle after the woman contacted him online to confirm what she had been told by Montgomery's wife.
Justice Penny Wolfgang called the situation a "consequence of misuse of the Internet."
"Consequence of misuse of the Internet", are you kidding? Since when should the punishment for "misuse of the Internet" lead to death?

Masayuki Ida *is a professor at the Graduate School of International Management (GSIM), Aoyama Gakuin University (AGU). He received his PhD in 1981. He serves GSIM as the associate Dean since 2004. His research is on Global Information Systems, the technological design of them and the relation with organizational activities and individual creativity. He had worked for introducing the Internet to the University and to Japan since 1988. He has also worked for IT introduction to various Asian countries as the chairman of Asia Open Source Roundtable (2003-2005) and was a member of the IT international policy discussion table inside the Japanese cabinet secretariat in 2004. He is a trustee of Center of the International Cooperation for Computerization Japan (CICC). He has ample knowledge of usage of IT to empower Asian countries. At the same time, he worked for the cutting edges of programming languages, and had been a principal member of the ANSI standard Committee to make the American National Standard of Common Lisp for 1986- 1995. He was a visiting scientist at Artificial Intelligence Lab, Massachusetts Institute of Technology for 1993 and 2002. He organized the FSF Tokyo seminars in the late 80s and was once titled as a VP for Japan at the Free Software Foundation, and founded FSIJ in 2002 as the founding president. Masayuki is regarded as one of the leading experts in Japan and in Asia, on the Internet and IT, and on the impact of IT introduction to Asian countries. He frequently visits several Asian countries, South America, and Europe, for IT human resource development governmental policies using Open Source Software, and technology needed to set up Internet connections. He teaches intensive courses in Vietnam and other countries. At his school, he teaches Internet Business, Information Security, and Web Strategy. Before joining GSIM, he was in charge of the research section of the Information Science Research Center of AGU, where he pioneered (designed and implemented) the three-campus network system, and its Internet connection, starting in 1988 until 1993. He has been an UNIX/ Linux expert since 1978. Dr. Ida has been serving as chairs, program committee members or speakers at various international academic and industrial conferences and activities. He is an elder and a choir member for long years at his church. He is a member of board of the directors of IAMSCU.*

Workshop Report

Chiaki Iwai
Professor of Graduate School of International Management.
Aoyama Gakuin University

Purpose and subjects of the workshop

The center of our concern is Information Technology, especially the Internet. The use of the Internet undoubtedly provides us with a wonderful new horizon for global communication and global collaboration. We now live in a virtually borderless world, and businesses make use of the new possibilities provided by the Internet. However, the Internet also brings about a series of problems that require further reflections on borderless ethics and responsibility for businesses. The national law enforcement of each nation is different and we have no international common understanding yet to regulate the use of the Internet. For our daily life, from children to senior citizens, from churches to commercial companies, from university research institutes to hospitals, from government to individuals, few areas can be kept going without the use of the Internet. A communication problem in one part of the world, the lack of global standards, the manipulation of data, the lack of privacy, and other issues can have a tremendous impact on society. What is our social responsibility in the context of these challenges? iBiZ2008, an international workshop for net business ethics aims at discussing the theme "Global Technology, Ethics, and Social Responsibility

Day One: "Borderless Technologies: The challenge of the Internet"

Dr. Wanda Bigham made a welcome address of the workshop mentioning that the Internet is a tool for good and a tool for evil, although there are also grey areas where we must use logic and values. She also emphasized that "Global Ethics, Methodist network" are keywords of this conference.

Dr. Masayuki Ida provided the introduction lecture "Elements for Net business Ethics". His main focus was what is taught in business ethics class for international or global business. By showing TV programming videos, such as "Google revolution", "Search Engine Expo", he stated that there is no "abroad" or no boundary in the Internet era and pointed out the importance of governance and social responsibility.

Because of the absence of **Guy Steel**, **Dr. Amos Nascimento** briefly summarized his keynote address on his behalf. The title was " Borderless net business and technology." In summary, Guy stated that in regards to the Internet, people want to know whether the information is reliable. This is one essential ethical issue.

Mr. Kaz Hashimoto, developer of game software, demonstrated state-of-the-art 3D game graphical software, whose name is "Blue Mars". He showed us the possibilities that the graphical technology will offer for a seamless world between real and virtual worlds.

Two regional presentations followed. One was "Technology for Africa" by **Dr. Martin Dwomoh-Tweneboam**. He insisted that "ICT" – Information, Communication and Technology is a more suitable definition which explains the Internet in Africa than the word "IT". The word "Communication" gives broader meanings which include libraries, document centers, and telecommunication. He mentioned the large growing possibilities in the African Internet market and the need to develop broader access to the market by utilizing the open source software. He introduced several open software projects and the "Mozambique education center project".

The final presentation of day one was **Dr. Klaus Schutzer**'s "Research and Technology in Latin America". He showed that 10% of the universities in Brazil are public while 90% are private. However, most research funding is given to public universities in Brazil On the other hand, he mentioned that non-profit universities do social education in Brazil and introduced us to several UNIMEP activities.

Soon afterwards we welcomed dinner with a roundtable presentation where every participant made a self introduction in an informal atmosphere.

Day Two: "Borderless Business; Net-Business Ethics and Responsibility"

At the keynote address in the morning of day two, **Dr. Hubert Kim** presented "Internet business and ethics in Korea", which showed that Korea leads as top-runner and test bed of broadband Internet services. By using the examples of "Cyber University" and "Megastudy", he emphasized that e-learning is a growing sector of Internet business in Korea. At the same time, there are negative effects of Internet in the country, such as adult material, violence, fraud, addiction etc. To counter the bad effects of Internet, he introduced several social activities such as Internet ethics education in elementary school.

From a view of a small IT business enterprise president, **Ms. Sakuko Unten**, presented several cases of a Web solution business in Japan. She pointed out the importance of combining Internet ethics and corporate ethics, and also the difficulties of customer education in dealing with ethical problems. She insisted that finding the right balance between benefits and risks is a key solution.

Dr. Davi Betts's presentation title was "WWW, $$$, Education & Ethics in Brazil". In the Internet age, he said convergence of technology, application and communication is important. He continued that in the knowledge society; we need to have data information knowledge wisdom. There are lots of issues such as local cultures and values, indigenous knowledge, national identity, copyright and patent, and data confidentiality and security in another country especially with respect to local legislation.

Dr. Margaret Griesse gave an interesting case study of the DuPont Brazil controversy of GMOs (generally modified organisms). She concluded that ethics is a social process and presented the tension between personal integrity versus social conditions for sophisticated ethical decision making. Similar to the Internet, we found limited ethics in a variety of stakeholders. In this case, they include DuPont themselves, consumers, scientists, Greenpeace, farmers, government and other countries. Keywords to solving these complicated problems are communication, negotiation, regulation and participation.

In the afternoon of day two, **Rev. Professor Yoshinobu Tobo** made the keynote address, "Theology for Information age: Happiness and Darkness in an Information Age". He said that the Bible is media space and the truth is the invitation to love God when invited to love our neighbor. With regards to the topic of the social entrepreneur, Prof Tobo said that it is the 21st century new business model which comes from the cultural sector including the church. He also mentioned Ohhara's Christian faith and his mission.

Dr. Iris Trick presented "Water -Source of Life?!" from the view of biotechnology and the environment. She said biotechnology is a fast growing area in different lines of business and water is essential for life. At this moment, she reported that 40% of the world population is suffering from a shortage of water and there are regional problems. She showed a challenging water treatment project in Piracicaba, Brazil (Sao Paulo) and also in Germany with a decentralized water management system as an alternative for sustainable business.

"Ethics in e-leaning" was the title of **Dr. Ted Brown**'s presentation. At first, he mentioned that online education is the fastest growing sector in the United States and we need to look at both the quality of the effectiveness of e-leaning and its consumer. He pointed out that psychological distance can encourage academic fraud. Developing a specific academic moral code and teaching a moral code to students will maintain higher quality e-leaning.

Dr. Fred Bird's presentation was "Globalization Perspective of e-business and ethics". First, he said we are living in an unbalanced and risky world. Since 1980, we have been looking at increased inequality within and between nations. There are risks such as the global spread of diseases, climate change and environmental degradation, modern uses of armed forces and modern labor markets and industrialization. He considers the fundamental ethical responsibility of business is to be good at business. He emphasized that businesses are not charities. Thus, we should invest in developing areas, use local suppliers and include those have been excluded. Finally he named

several issues such as lack of access, odious usages and information overloads which net business ethics is facing.

At the concluding remarks, **Dr. Ida** made the presentation "Globalization". He referred to the Asian situation by using a video of a Vietnam Internet high education program and prep school for IT engineering in India. We see how the Internet accelerates globalization and lead us to a borderless world; however, at the same time, we realize the ethical issues are different nation by nation. Solutions of ethical issues are not simple but complicated.

Following this, **Dr. Bigham** gave the closing remarks, **Professor Chiaki Iwai** wrapped up the two day conference by summarizing each presenter's keywords and implications.

Dr. Nascimento led the final discussion as chair. At the conclusion, every participant agreed that we should organize a technical and an ethical task force and continue further discussion for the iBiz2008 publication and member's mutual communication.

Chiaki Iwai *is a professor of Graduate School of the International Management. Aoyama Gakuin University. He has been researching the development of the management game, internet marketing and database marketing. He is the former marketing manager of MSN in Microsoft Japan, a position he held for many years.*

Ethics and Social Responsibility
An Agenda for Interdisciplinary and International Research on Borderless Net Business Ethics

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Abstract
My remarks aim at presenting some basic concepts of an ethical theory that could provide a framework for discussion, cooperation, and effective partnership in international research on borderless communication, technology, and business. To develop this idea, I introduce the key ideas of discourse ethics, then characterize the work of some global and borderless organizations and networks that promote research and education, and finally discuss how communication can occur effectively within the already existing global framework of educational institutions related to IAMSCU.

Introduction
The 20th century saw the emergence of a series of technologies that were applied to information, broadcasting, and communication in general. These technologies, such as the radio, telegraph, telephone, television, fax machine, computers, and the Internet, among many others, have now shaped our societies and transformed the way by which we interact with reality as well as with ourselves – both individually and collectively. The traditional and standard account of the progress and development sees this process as very positive. This image is represented by Isaac Asimov in the following chart (reproduced from Erickson, 2005: 90):

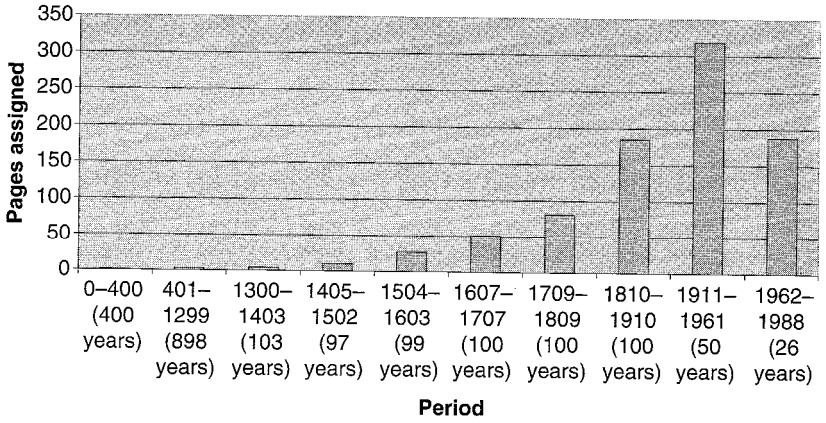

Fig. 4.1. Asimov's chronology of science and discovery. Note that dates BC have been omitted (Asimov covers 4,000,000 BC to AD 0 in 60 pages).

Beyond this utterly optimistic view, there is much research on the impact of these technologies, their advantages, further applications, as well as the challenges and problems they bring about (Sismondo, 2004). On the one hand, there is ongoing sociological and philosophical research on the meaning and impact of these technologies. Terms such as cybernetics, information theory, information technology, semiotics, communication technology, information and communication technology, communication studies, net studies, and many others attest to the variety of approaches available in this area. On the other hand, we are becoming increasingly aware of the

challenges and problems. This awareness has led to the quest for a more applied ethics that would guide human actions in fields such as medicine, environmental issues, business, and others.

Relying on Masayuki Ida's terminological suggestion, I would like to consider the process he defines as "borderless net business" and relate this topic to the specific area of higher education (Stedman, 1998). In the field of higher education, terms such as online education, distance education, virtual education, and educational technology confirm the growing importance of new technologies for the development of curricula, testing, learning, research, administration, library information, and peer interaction in university settings. More than simply words, these terms also indicate how the university became definitely borderless, transcending not only the classroom and limits of its own campus, but also going beyond national borders by using satellites, Internet connections, television networks, and other recent technological capabilities. Moreover, they also indicate how universities have been more and more intertwined with business practices, requirements, and structures. Also here, ethical and moral questions arise.

A few questions seem to remain open and unanswered amidst the plethora of initiatives that are characterized as proper of the growing field that could be called "borderless net educational business," in which we all – participants in this specific event on borderless net business – are directly or indirectly involved. Our involvement in this field opens us up to a series of questions, but I would like to focus on a few only: What are the values guiding the application of technology to the seemingly natural process of communication? What happens when natural interactions are mediated by layers of apparatuses, networks, businesses, structures, codes, and anonymity that come along with the use of these technologies? What is the positive impact these initiatives may bring about in higher education?

The Problem

The advent of technological devices is not new. As a matter of fact, technology is a mark of the human civilization process. Thus, the discovery of fire, use of the stone for hunting purposes, development of forks, knives, and chopsticks, as well the advent of printing and the invention of the automobile are all examples in what we define as history of technology. We certainly use these technological devices every day and take them for granted, without reflecting very much on their use or questioning their application in domestic life. What is the problem of applying new technology to higher education?

We may present a series of suggestions as to what the problem may be. In ancient Greece, Plato was already questioning those groups that considered technology [techne] more important than reason [logos]. Descartes defined the human body as a mechanical machine. In 20th century Germany, Martin Heidegger discussed the pervasive influence of *Technik* (Heidegger 1953; see also Dreyfus 1979) while Adorno researched the dangers of what he called the "cultural industry" in the United States [*Kulturindustrie*] (1947). More recently. Jacques Ellul argued that science became enslaved by technology (Ellul 1972), while Donna Haraway showed that technology has changed the very way we define humans (2004).

Following these authors, we can see the advent of individualism, capitalism, colonialism, militarism, sexism, consumerism and other modern ideologies as the values guiding the use of recent technologies (Erickson 2005). Most contemporary technologies for broadcasting and information, for instance, resulted from military research during the 20th century. The National-Socialist dictatorship in Germany invested heavily in telecommunications. The Manhattan Project in the United States required the development of enciphered telecommunication. Similarly, current anti-terrorist initiatives by several governments include wiretapping, eavesdropping, and other intelligence activities based on the many times illegal search of private citizens' information. One of the big challenges today is not only the danger of authoritarian and military governments using available network technologies to contradict civil liberties and privacy, but also the use of these same techniques by civil groups with criminal purposes (Krug, 2005).

As result, there is now the quest for new ethical values to orient a public and private use of network information and communication technologies. Today there is both a need and an opportunity to reconsider which values can address new global situations, contexts and models that are influenced by borderless network information and communication technologies. The field of

higher education is not immune from these challenges. All this has led to the need for an ethics for the computer sciences, information studies, and Internet usage in telecommunication (see Floridi 1999). Nevertheless, there are key elements of our communication practices that should not be forgotten as we try to develop an ethics for borderless net business. The communication ethics developed by Karl-Otto Apel can be an important guide in this regard.

An Ideal Ethics of Borderless or Unlimited Communication

Karl-Otto Apel is a German philosopher who pursues a transformation of Kant's transcendental philosophy and deontological ethics by emphasizing the importance of community relations. To achieve this goal, he reinterprets Kant's theoretical philosophy by means of a turn to language, hermeneutics, pragmatics, and semiotics (Apel 1994). According to Apel, the language of our communities provides us already with a medium for a reflection on the very conditions of knowledge, culture, science, and technology. Based on the philosophy of Charles Sanders Peirce, Apel goes as far as to say that science presupposes a community whose members are constantly submitting themselves to review and verification (Apel 1981). This occurs according to a process of argumentation that presupposes a wider normative context. This normative requirement leads us to his discourse ethics.

In 1973, in one of his first papers on ethics, entitled "*Das Apriori der Kommunikationsgemeinschaft und die Grundlagen der Ethik*", he denounces the pervasive impact of technology at the end of the 20th century and goes "from Kant to Peirce" in order to define a new principle for ethics. He speaks of the a priori of an intersubjective interaction of real human beings projected towards the future in an "ideal unlimited community of communication" [*unbegrenzte Kommunikationsgemeinschaft*] (Apel 1994:231-253). This idea can surely be related to our discussion on borderless processes enabled by the Internet. What does he mean by "unlimited community of communication"?

In his view, the 20th century witnessed the encompassing impact of technology in our daily lives. I guess we can call this "borderless." As technological problems became global, Apel realized that we need a global ethics as well. In his view, this global character would be given by the borderless characteristic of communication process. In each encounter we establish with our peers, we not only observe an amplification of the idea of community, but also the progressive awareness of the ethical presuppositions and consequences of a principle of communication that must guide our dialectical relationship with reality. Habermas had arrived at a similar position in his definition of an "ideal speech situation" (1994), but in "Das Apriori der Kommunikationsgemeinschaft und die Grundlagen der Ethik" Apel spells out what was at stake in ethics:

> *Whoever considers the relation between science and ethics in the modern industrial societies around the world has to face a paradoxal situation. On the one hand, the need for a universal ethics, i.e. one accepted as connecting the whole human society, was never so urgent than in our age of a unified civilization resulting from the technological consequences of science. On the other hand, the philosophical task of a rational justification of a universalizable ethics seems to have never been so difficult or even hopeless than in the age of science; and indeed because in this era the idea of intersubjective validity has been prejudged through science, namely through the scientist idea of a normative neutral or value-free "objectivity" (1973 2:359).*

To address this dilemma, he proposes a turn to a sophisticated version of ethics based on the following steps: first, he affirms that even logic and science presuppose ethics, for they rely on the fact that people agree and consistently act based on values such as coherence, truth or verification; second, that the logic-scientific rationality or the scientific institution alone is not sufficient to ground ethics because the aim of science and technology is to objectify reality; third, that we need to add the recognition of persons as both subjects (not objects) and co-subjects of an interaction in which we address our needs and raise claims as members of a community of communication (1973 2:397f.). In short, Apel considers that once we recognize we participate in a communication process, we cannot but also recognize that we are already relying on a kind of ethics.

In *Diskurs und Verantwortung* (1988), he develops this view a bit further as he tries to derive an implicit view of solidarity and responsibility that would expand his ideas on community. In his view, it is not an individual's soliloquy or a particular decision according to the case, but a dialogue and mutual recognition among members of a "real community of communication" that establishes the "ideal unlimited community of communication" which must be the point of departure for a new ethics in the age of science (1988:38f.). This recognition that there are others participating in the same process (even if it is borderless, invisible or geographically distant) is what he defined as the fundamental aspect of an ethics of communication or discourse ethics [*Diskursethik*].

This is certainly an ethical ideal, but it is based on this ideal that we can observe real practices of borderless communication, such as those that occur through media and telecommunication technologies. The ideal of communication helps us to reveal the gaps that occur in real process of communication, and indicate how far we are from a just, free, symmetric, interactive and emancipated form of communication. The most important point for us, however, is his conclusion that our decision to join this ongoing debate about the ehtics of communication is not a matter of faith or convenient private choice, and much less of ideological preferences, but of collective moral responsibility [*Verantwortung*]. Discourse Ethics, therefore, proposes the application of both real and ideal communication processes as a way for us to judge the ethical limits of communication technologies.

Borderless or Unlimited Communication in the Practice of Higher Education

So far we have seen that the scientific development of new technologies of broadcasting, information, and communication has led to new forms of interaction. These new technologies are central to contemporary business, since companies can now operate in a world without borders. With these new technologies we objectify our relationships and many times forget or abstract from the subjects or persons with which we interact. This process of abstracting from personal and collective relationships opens the door to a series of manipulations and exploitation. These technologies raise, therefore, a series of questions about ethics and responsibility of business, including in those cases in which businesses partner with higher education (Stedman, 1998).

If one of the main problems of borderless technologies is its abstraction from real persons and interactions, a new ethics to cope with this problem could simply propose that we include real persons and real communicative interactions. This is precisely the normative framework that could offer guidance for our actions in this complex field. Recently, however, new debates have emerged on the need to stress the very original meaning of the word 'responsibility': to respond to, to be accountable to society. I believe the ethics of communication proposed by Apel can be very useful in this regard because it proposes not only our involvement in real communication and recognition that there are others involved in this process, but also requires that we respond to these other voices – based, of course, on principles such as freedom, respect, justice and symmetry, which seem to disappear in technologically mediated interactions.

Now we need to address the question regarding how this model would apply to us as members of educational institutions affiliated to IAMSCU (2005). As such, we are already part of an international or global network that faces the same challenges mentioned above. If we use information technologies in a borderless perspective, chances are that we are forgetting or abstracting from someone. The challenge here is dual. We need to acknowledge this fact and, once we recognize that there are others hidden in this process, we are forced to answer to them in a different way, beyond the technological ways of excluding and erasing people. How to turn this ideal into reality?

Several theories propose that individuals are the ones to be responsible for concrete application of ethics, as they face moral dilemmas and a reach a personal decision about the best course of action (McIntyre, 1984; Weber, 1959). Applying this line of thought to institutions of higher education, the best we can do is teach traditional virtues and expect that persons apply them in their real lives. Another theoretical approach emphasizes collectivity and the need for normative frameworks and rules that guide individual actions (Manners, 2008). Also here, an institution of higher education would simply follow the guidelines established by the government or an association.

As institutions based on the Wesleyan tradition, the institutions affiliated with IAMSCU can neither expect the infallibility of individual behavior nor rely only on regulations established by governments. Rather, they have to go beyond these markers. Many nations are trying to erect new legal frameworks to cope with the problems related to Internet borderless business, but their tools are very limited when applied beyond the borders of the Nation-State. As a matter of fact, private businesses realized these limits and are trying to go beyond both individual virtuosity and the legal frameworks of given nations (Smucker, 2006). As a result, they are establishing their own ethical codes and guidelines, which would orient them as corporations that transcend national borders and operate within the larger framework of a global market. This is done by means of particular codes for social corporate responsibility. But again, where is the room for higher education in this spectrum, especially of institutions related to IAMSCU?

One way of answering this question could be to recall the Christian tradition of ethics and its commitment to education. The same is valid for the Methodist tradition. Those institutions related to this tradition rely on the fact that the first school founded by John Wesley was not necessarily focused simply on personal salvation and individual holiness, but also social needs, including the needs of poor children in England and the need to "reform the nation" (Best, 1988).

Accordingly, many other schools, colleges and universities created in different parts of the world were based on similar values. For instance, several institutions were located in impoverished communities and provided courses that were and hopefully still are meaningful to real people. Other institutions founded in Korea and China focused on women's education, such as the case of Ewha Woman's University, a Methodist-related institution that became world-known for focusing on technology for women. Others emphasized the needs and situation of people of African descent, such as traditional Black colleges in the United States. In Latin America, the Methodist University of Piracicaba has maintained its commitment to providing the basis for democratic efforts in Brazil. And in Africa, the Africa University was established in Zimbabwe and has formed many leaders that have contributed to the search for solutions to problems in Southern Africa, beyond the limits of Zimbabwe.

There is no doubt that these traditions in education can provide a different perspective for ethics and social responsibility, as the practices mentioned above show. They also express their social, environmental and economic concerns, and provide support for public health, poverty reduction, equality, political freedom and education. These practices indicate a different approach to social responsibility, since they are not necessarily based on governmental expedience and pragmatic business maxims, but on ethical principles that transcend these limits. To put it in the language of this workshop: borderless ethical principles. What are these principles? I believed the traditional practices of persons and institutions related to this tradition of education can be expressed in terms of an ethics of communication. This would allow for a communication process that not only discovers them beyond the layers of technological mediation, but also involves people more directly, allowing the involved parts to express themselves and agree upon the topics of discussion and, finally, respond to their needs, concerns, and proposals. I cannot fully explore these issues in this paper. However, there is room for a question: How could we address the challenges of borderless net business in our institutions of higher education with this communicative ethics and responsibility?

Conclusion

Based on the points mentioned so far, we can attempt to answer the questions above by saying that the practice of concrete borderless communication and interaction among the IAMSCU-related institutions of higher education and the ideal of an ethics of communication as proposed by Apel can be combined if we provide an institutional framework that applies the existing personal, institutional, and technological resources to generate an ongoing borderless communication process. This would be an interesting understanding and application of the "unlimited community of communication."

When we consider the IAMSCU-related institutions of higher education represented in this colloquium, we could use this global network as an opportunity to apply the elements that, according to Apel, represent some of the concrete conditions for a global ethics of communication which, in my view, could be applied to borderless situations in business and education. Values such as concern for the whole community, interaction through symmetric relationships, consideration of the rights of

disadvantaged people, and others, are compatible with the principles of that movement founded by John Wesley. Based on this tradition, we could argue that the motto “The world is my parish” could already express the motivation for a global movement articulated around a network of institutions in the area of education, which are characterized by their ethics and social responsibility.

All the characteristics mentioned above indicate that important tools for collective action that promote social responsibility are already at place. I believe that establishing frameworks for real communication among the participants in this community is a good principle. I also believe that the workshop iBiZ2008 "Global Technology, Ethics, and Social Responsibility - An Agenda for Interdisciplinary and International Research on Borderless Net Business" is a good step in this direction.

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Borderless Net Business

Guy L. Steele Jr.
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Abstract

For centuries there were three principal resources of value: land (and associated minerals), labor, and portable goods such as food and merchandise. Through commerce, money became an abstraction of these resources that provided a means of exchange among them. More recently, energy and information have become recognized as additional resources of value. Through machines, energy can substitute for some kinds of labor, and information can substitute for the physical tokens that represent money. In addition, some kinds of information is valuable in itself, either for business purposes or for entertainment (music, movies, games). Information is a rather different commodity from land, merchandise, labor, or energy. Information is easy to copy and is not tied to one particular physical representation (these two facts are related). As a result, it is more difficult to control and it is more difficult to guarantee its authenticity. Governments are organized primarily around geography, that is, the control of land; laws and the various institutions that control resources rely primarily on controlling the flow of merchandise and labor among geographical regions. The Internet is also, to some extent, organized and controlled in this same way, and each country makes some decisions about what information it will allow to flow into and out from its own geographical region, with mixed success, because information is particularly easy to smuggle.

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Information is a rather different commodity from land, merchandise, labor, or energy. Information is easy to copy and is not tied to one particular physical representation (these two facts are related). As a result, it is more difficult to control and it is more difficult to guarantee its authenticity. Governments are organized primarily around geography, that is, the control of land; laws and the various institutions that control resources rely primarily on controlling the flow of merchandise and labor among geographical regions. The Internet is also, to some extent, organized and controlled in this same way, and each country makes some decisions about what information it will allow to flow into and out from its own geographical region, with mixed success, because information is particularly easy to smuggle. Different countries have different ideas about the extent to which information should be disseminated, and which kinds of information should be freely available and which other kinds may require a payment.

Computer networking had its origins about four decades ago, in a community that was fairly small and placed emphasis on making technical information available fairly freely. It was so difficult to find information at all that the emphasis was on making information transfer easy, and relatively little thought was given to protocols for protecting or restricting information on computer networks, or for requiring payment for information transfers. This worked in the early days because the community was small and had a set of more-or-less shared goals, and the costs were mostly subsidized by research grants.

But nowadays the Internet is used by many groups of people with competing purposes and with different ideas about the proper use of computer networks, stemming from different ideas about how to organize human communities. I think that in order to answer questions about the ethical use of the Internet globally it is necessary to try to find universal principles about the use of information in human communities. I suggest that the following is perhaps the most important candidate principle:

People want to know whether information is true and reliable

There are several ways to assess whether information is true and reliable. One is to have a way to verify the information intrinsically. Perhaps the information is accompanied by a proof, such as a mathematical proof. Perhaps the information is guaranteed by a friend or an authority; this does not solve the problem completely, but does reduce it to the problems of whether the authority can be trusted and whether the claimed authority did in fact issue the guarantee.

In my own (American) culture, the proverb "Honesty is the best policy" is taught to every schoolchild, and it is so familiar that most people are confused about its origins; for example, many attribute it to William Shakespeare, despite the fact that a simple search finds it nowhere in his works in that form (though he does have the line "No legacy is so rich as honesty" in *All's Well That Ends Well*, Act 3, Scene 5). The proverb, in this English form, does appear to go back to Shakespeare's time, however. Other Americans mistakenly attribute the proverb to Benjamin Franklin, who published so many proverbs in his *Poor Richard's Almanac*. Alexander Pope wrote "An honest man's the noblest work of God" in his *An Essay on Man*, Epistle IV. The idea in this proverb is of course made clear in the fable of "Mercury and the Workman" attributed to the Greek writer Aesop in about 550 BC. I do not doubt that other cultures have similar proverbs and stories, and I would be interested to hear of them.

There is a concern for honesty in the Bible as well, including honesty in commerce: "The LORD said to Moses, 'Do not use dishonest standards when measuring length, weight or quantity. Use honest scales and honest weights, an honest ephah and an honest hin. I am the LORD your God, who brought you out of Egypt.'" (Leviticus 19:35-36, NIV) "Do not have two differing weights in your bag, one heavy, one light. Do not have two differing measures in your house, one large, one small. You must have accurate and honest weights and measures, so that you may live long in the land the LORD your God is giving you. For the LORD your God detests anyone who does these things, anyone who deals dishonestly." (Deuteronomy 25:13--16, NIV) "Honest scales and balances are from the LORD; all the weights in the bag are of his making. ... Kings take pleasure in honest lips; they value a man who speaks the truth." (Proverbs 16:11,13, NIV) "An honest answer is like a kiss on the lips." (Proverbs 24:26, NIV)

Perhaps most interesting of all is Jesus' injunction in the Sermon on the Mount: "Again, you have heard that it was said to the people long ago, 'Do not break your oath, but keep the oaths you have made to the Lord.' But I tell you, Do not swear at all: either by heaven, for it is God's throne; or by the earth, for it is his footstool; or by Jerusalem, for it is the city of the Great King. And do not swear by your head, for you cannot make even one hair white or black. Simply let your 'Yes' be 'Yes,' and your 'No,' 'No'; anything beyond this comes from the evil one." (Matthew 5:33--37, NIV) American schoolchildren learn from their teachers that "Honesty is the best policy"; but they also learn from each other (not their teachers!) the supposed rule that a promise is not binding if spoken with one's fingers crossed (see http://en.wikipedia.org/wiki/Crossed_fingers). Perhaps this is a useful game, because they quickly learn that they must demand to see their friends' hands before relying on a promise, and then just as quickly learn that if their friends demand to see hands when a promise is made, then the "trick" is no longer useful. So perhaps it is a child's exercise in what one must do to develop trust. Some Bible commentators point out that oaths of the type enumerated by Jesus are regarded as not binding by at least some commentators in the Mishnah, so perhaps in Jesus' day such oaths were the equivalent of crossing one's fingers – an attempt to mislead the hearer into believing a promise when the speaker had no intention of following through on the promise. Jesus' injunction to "let your 'Yes' be 'Yes,' and your 'No,' 'No' " is not merely a command to give a factually correct answer in a simple manner but a command not to mislead others as to your intention.

From at least a North American point of view (I think I can safely speak for the U.S. and Canada, but perhaps not for Mexico, for I have no experience in that country), I think many of the problems of network commerce and borderless commerce appear to be questions of whether information can be trusted and whether merchandise has the characteristics claimed of it. I think we are not so much worried about whether software or music is "legitimate" or "pirated" as about claims that accompany manufactured goods. Stories that have made news headlines in the last year raise such questions as: Are drugs manufactured in other countries safe? Are toys manufactured in other countries free of lead paint? Is foreign toothpaste safe to use, or does it contain harmful chemicals? We might also be concerned about the integrity of financial information when investing in foreign corporations, but such matters are mostly left to professionals. (Yes, there is spam email with false offers of getting rich quickly if you will only invest in a foreign corporation, or help an individual sneak money out of an African country, but by now most network users have learned to ignore such "obvious lies.")

Now, it must be said that we have the same problems when dealing with companies or individual persons in our own country. There have been massive scandals in the U.S. involving corporations that have lied to investors and to the government. There have been problems with tainted food, such as spinach, and defects in manufactured goods. But my feeling is that most Americans are less uncomfortable with that situation because they believe that such problems will be dealt with properly by their government, the one they elect and which passes the laws that govern their own behavior, so they have an idea of what to expect in the way of law enforcement. I would like to believe that the government of another country such as China or India would have and enforce laws against chemical contamination of products, for example, but I have to admit that I am ignorant of the laws in those other countries and do not know anything about the people who make and enforce those laws and what they have done in recent years about such problems. So I have not had the opportunity to develop an appropriate level of trust. How, then, can trust be built in a (relatively) borderless, Internet-based global economy?

One way is trade agreements and mutual support of law enforcement, and indeed this occurs already. Another is inspections when goods cross geographical borders; this is also done, but the costs are large, so it is not done in all cases. But another way is for those involved in commerce to establish a reputation.

To me, the most remarkable thing about eBay is not that it has created a large-scale database to support millions of auctions, or that it has so quickly built a large business around many relatively small transactions. No, the most remarkable thing is that eBay has managed to create a community where, to a remarkable extent, you can carry on commerce with individual strangers with a reasonable level of trust – not 100% trust, but enough to be willing to engage in buying and selling small goods and sometimes even expensive goods. I have purchased items from strangers in England and Germany and Australia and Singapore, and have been completely satisfied and unafraid. Why? Because eBay has established a feedback system so that buyers and sellers can comment on each other. Every participant has a reputation to maintain, and you can avoid commerce with members who have a bad reputation. Now, this system is not perfect, and it can be corrupted, but it works well enough. One of the reasons it works is that eBay itself more or less guarantees the integrity and availability of the feedback comments and statistics; in this limited respect, eBay functions as a government over its limited domain. So users come to trust this feedback information, and through that develop trust in other buyers and sellers.

Now, sometimes it is necessary to hide information: because of fundamental privacy concerns (and these may vary from culture to culture), because of the need to maintain confidences (if I promise to protect someone else's information, for example), or because it is desirable to prevent temptation. For example, a fundamental flaw of most banks is that every account has a single account number, and in order to allow a third party to deposit money into an account you must provide the same identification number that is used to withdraw money from the account. If two separate numbers were used, one for deposits and one for withdrawals, it might provide greater security and less temptation for fraud. In the same way, one of the weaknesses of the international credit card system is that a single number is used both to identify an account and to authorize each transaction. Some banks have built an improved procedure on top of the existing system by

providing "one-time-only" credit card numbers: a customer can go to a website, identify himself to the bank with his primary credit card number, and receive a fresh credit card number, tied to his existing account, that is good for exactly one transaction. Such a system likewise reduces opportunities for fraud.

Besides "Honesty is the best policy", we have another saying: "You can't cheat an honest man." Some kinds of Internet scams depend on lying to someone in such a way that they also see an opportunity to lie and cheat, and thereby hope to profit. Questions of interest when considering ethics in a global economy are: How can we structure commerce to avoid temptation? How can we make it so that honesty truly is the best policy – that is, can it truly be in everyone's best interest to be honest? Honesty might (at least on balance) be in the best interest of wealthy nations, but I have to admit that, as the world's economy is currently structured, it might not appear to be in the best interest of poorer nations. If not, what adjustments could be made so that everyone will find honesty and trust desirable? Trust requires community, a knowledge and understanding of the lives of others, and coming to care about those lives.

Guy Steele *was born in Missouri and graduated from the Boston Latin School. He received a BA from Harvard University, a MSc and PhD from MIT in Computer Science. He then taught and researched in the area of computer science at Carnegie Mellon University and Tartan Laboratories. Next he joined the supercomputer company Thinking Machines, where he helped to define and promote a parallel version of Lisp called Connection Machine Lisp). In 1994, Steele joined Sun Microsystems and was invited by Bill Joy to become a member of the Java team after the language had been designed, since he had a track record of writing good specifications for existing languages. He was named a Sun Fellow in 2003. Steele has published several papers on the subject of the Lisp language and its implementation, the design of the programming language Scheme, and a series of technical work related to compilers, parallel processing, and constraint languages. He has served on accredited standards committees of ECMA TC39, X3J11, and X3J3 (Fortran), the IEEE and Sun Microsystems. At Sun Microsystems his work included research in parallel algorithms, implementation strategies, and architectural and software support. More recently, he has been working on a new programming language named Fortress. He edited The Hacker's Dictionary, C: A Reference Manual, Common Lisp the Language, The High Performance Fortran Handbook, and The Java Language Specification , among other publications. He is a member of the National Academy of Engineering of the US and very active in his local community.*

Happiness and Darkness of an Information Age
Theology for an information age

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Abstracts
Christian faith has the perspective which perceives the happiness and darkness of an information age. I would like to propose an information ethics based on three Cs: content, control and context. The contextual approach situates the information revolution in a truthful communication of friendship which provides an alternative global image against capitalistic colonialism. Today, the concept of the social entrepreneur is a non-violent and servant leader. Mr. Ohhara Magosaburo who was the Christian president of Kurashiki Spinning Company had an idea of management that Japanese social scientists called Christian Humanism. Scientific Management is a model of virtue ethics for the social entrepreneur. The concept of the social entrepreneur is a new and old concept of calling what Max Weber described as Protestant Ethics. Church, Christian Universities, Christian Hospitals and so on have to revitalize their mission in this information age.

It is my great pleasure to present my essay about information ethics at this workshop. I am a professor of the Graduate school of International Management and a University Chaplain of Aoyama Gakuin. Theological Ethics is my special field where my mentor and friend is Dr. Stanley Hauerwas. I translated his books, *The Peaceable Kingdom*, *Christian among Virtues*, *Resident Aliens* and so on. Before I met Hauerwas, I wrote some books, *The Theology about H.Richard Niebuhr*" and *The Narrative Theology and Christian Ethics* etc. My presentation is about information ethics from the theological perspectives. My title is "A Theology for an Information age"

Christian Perspective
My Grandmother, who had worked as a teacher in high-school and junior college supported by the Japanese Church, asked me as follows when I entered Tokyo Union Theological Seminary. "Do you know "Εν αρχη ην ο λογο s " ? It surprised me a lot. It was the Greek words of the Bible for "In the beginning the Word already existed; the Word with God, and the Word was God."(John1:1 Today's English Version). These are very important words about the hopeful root of human life and the world.

In addition, the Bible has the narrative of the Tower of Babel in conjunction with the human word, too. It points out the problems that we human beings have in confusing communications in the world.

http://www.salvastyle.com/

I think it is the Christian perspective for the information ethics.

Generally a "vague" concept circulates with crude words called "the information revolution", "the ubiquitous society" and "the networked society" in comparison with an Agricultural Revolution, the Industrial Revolution and now, the Energy Revolution. Netiquette (net etiquette), a computer ethics, a vague concept such as information ethics begins to circulate, although this is already a little late. We have already many information technologies in our global village. Personal computer, cell phone, digital camera, Internet and so on are there.

Many educational commentators in Japan say that high school students who watch TV and play media games for more than three hours a day might have some psychological and physical troubles. The shift from face-to-face communication to on-screen communication means a change from recognizing the voice and gestures via the senses of sound and sight to recognizing texts without them. Sometime, we lose a direct person-to-person contact. But we enjoy the information revolution which brings democratization to knowledge and society.

This year on January 3rd, I went to a New Year's concert of the Tokyo Symphony Orchestra. At that time, they did not have any conductor but only a young concertmaster who acted as host. We enjoyed that concert and Orchestra members also seemed to enjoy playing in a relaxing way. "Oh," I thought, "where is the authority?" "Um, the authority is only the Muse: the beautiful music." So, we ask today, "Where is the authority in media space?" "Um, the authority is only the Truth: Logos."

Last year, in our country we enjoyed many whistle-blowing events where the Internet was used and this made companies awaken to corporate social responsibility (CSR). The information revolution steadily develops a democracy in many sectors of society. However, we now experience the widening gap between the techno-poor and the techno-rich in society and the global village.

Information Ethics

I would like to propose information ethics based on three Cs: content, control and context. The first task is to protect the vulnerable, such as children, minorities and elderly persons, from violent contents. The power of media should be used to induce the truth. The second task is a delicate and complex one. We should not control marginal groups from positions of decision-making within media enterprises. Rather we should watch the powerful media monopolies of the global media conglomerates. Everyone has the right to access data about global phenomena. I think that teaching people how media products are made and how to interpret them critically allows individuals to take control of media products and tools so that they can more effectively pursue the truthful data rather than accept passively those of media firms.

I would like to emphasize the third task: context. The information revolution has a strong cultural impact on global residents. Let me say that the media space is a battle field between media

and culture industries driven by the market and the foretaste of the peaceable kingdom provisioned by an agape community. We should use caution against the media ecology of contemporary capitalism. Therefore, the contextual approach situates the information revolution in a truthful communication of friendship between persons, creatures, and God in Christ. This makes an alternative global image against capitalistic colonialism.

We are educators who have to form character in the next generation so they will have the courage to speak freely about truth in the global context.

Meanings of Globalization

Hans Holbein painted "the Ambassadors" which nowadays is hanging in the National Gallery in London. Two wealthy, self-confident men stand looking out of the picture. They are clothed in all the trappings of luxury and power. On the left is Jean de Dinteville, French ambassador to England at the age of only 29, his gown lined with ermine, a gold medallion round his neck, his doublet of satin, a finely chased gold baton, his sign of office, in his right hand.

Across the table is Georges de Selve, bishop at the age of 25, future ambassador to Venice. On the table on which they rest their elbows are the appurtenances of Renaissance learning and culture. A lute, flutes, a Lutheran hymn book, a guide to arithmetic, a sextant, compasses and two globes, one for the earth and the other for the heavens. The year is 1533. But Hans Holbein did not forget to paint the picture of a skull symbolized by a scull that means "memento mori." This is the warning to the globalization of greed.

http://www2.edu.ipa.go.jp/gz/kiyaku.html

As time went on, Jonathan Swift wrote the book entitled *Gulliver's Travels*, which is famous in our country. He made an ironic remark about human greed. In his book, he explained the essence of human desires as follows, "if you pay, you can get anything in the land of yahoo (good tasting food, a beautiful house…) and you always injure each other to get money." So the task of humankind is to task the positioning and sublime the greed.

Adam Smith tried to use self-interest to make the common good through the invisible hand of who was the stoic god. This attempt has greed in store for the economic growth of society.

We Christians should overcome violent greed and change our greed to charity. In our information age, we have a democratic system which is made by the balance with the market place, government and the public square. But this system does not assure the conscience people should have in a society.

The Bible in Media Space

The media space is the place where many languages, texts, images, symbols and stories infiltrate freely. And we cannot control that space. In other words, it may be said that the media space is a free space to do information about reality and virtual reality. And both come and go freely.

Therefore it is important to bring up "conscience" and “character” to navigate us in a complicated media space. So the moral formation which forms the conscience of human beings in this sense will be important in our times and in the future. However, our world becomes a so-called post-modern society. By theological analysis, there are two problems in this society. At first, our age is the time when we are aware that self-understanding is not given directly to human consciousness. In other words, we discover the fact that our consciousness is formed by words, stories, traditions and cultures as Floyd and Nietzsche say.

Secondly the theme in the most-modern society will recognize the need to overcome violence. It is a delicate analysis to point out that there is a violent device in a work of reason as Michel Foucault insists. In other words, violence tends to conquer nature or sex differences in a work of technological reason. This is called "an ethics of the post-modern". In Theology or Christian ethics which is aware of such an "ethic of the post-modern", we should develop "the ethic of the story" and "the ethic of the encounter" with a new meaning. Narrative ethics has a story with a vision that orients morals, which a pure rational act cannot do. When we make the true story our story, we form a wonderful character. We should think about this for the media ages.

Thirdly, we should pay attention to the ethics of the encounter with a new meaning, as Karl Barth, Abraham Hessel and Emmanuel Levinas state. I say that a human being sets a trap unconsciously, for another person in his operation. In contrast, according to Levinas, the encounter with another person should have the priority over any kind of story or any kind of language. By the way, it forms Christian conscience to understand the Bible as a media navigator. This conscience will show the direction and find out problems in this media age. It may be said that the direction that the Christian conscience shows is the clear intention and responsibility to live peacefully with Jesus Christ.

My focal image of the Biblical truth is the Eucharist. Jesus Christ is the absolute other whom we should meet. And the vision of "the peace of Christ" is the impact that we shall obey his true story. It is the moral reality coming across from the outside of our consciousness. The truth of Jesus Christ is the powerful love of God who denies individualism in capitalistic society. In other words, we break the shell from our story, and are given the new reality called the invitation to love God who invites us to love our neighbor. We meet Jesus Christ and have a true character in resemblance with Him.

Our habituation of following Jesus is made from our attending worship and participation in the witness of practice in servant leadership. Jesus declared, “I am the way, the truth and the life.” So we believe, he is the navigator to the living truth that has eschatological cosmology. When a natural person is invited to the hope, the vision, the purpose and the repentance, she or he becomes a new creation in Jesus Christ. If a natural person does not have any purpose but only greed, he or she has a corrupted civilization.

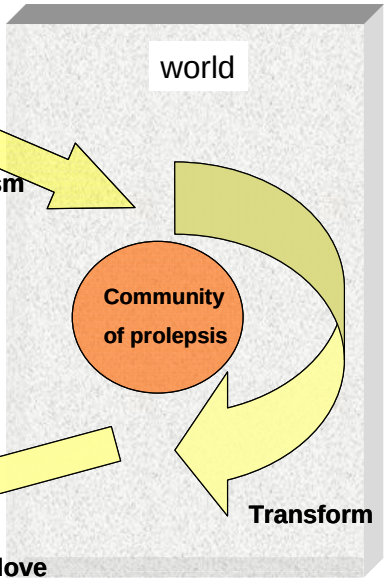
I have just said that Christology has eschatological cosmology. The kingdom of God throws the critical words into the world. But these words are gentle because they are coming from the peaceable kingdom. Jesus the navigator transforms people in the world into the response of love and care by his words, his crucifixion and resurrection. His navigation uses the lure of agape which forms a community of the prolepsis with friendship and service. This dynamic Christological Cosmology includes ecological sensitivity coming from the easterner and the sense of stewardship from the westerner.

Jesus Christ forms the new community of prolepsis whose members are the creative minorities of non-violence and service leadership. My focal image of the Bible is the holy table Jesus Christ hosts. Around the table we share the happiness and the sorrow of each other. This image refuses a possessive individualism, a closed individualism and a competitive individualism.

Imaging the prolepsis of Peace: Hope

Peaceable kingdom

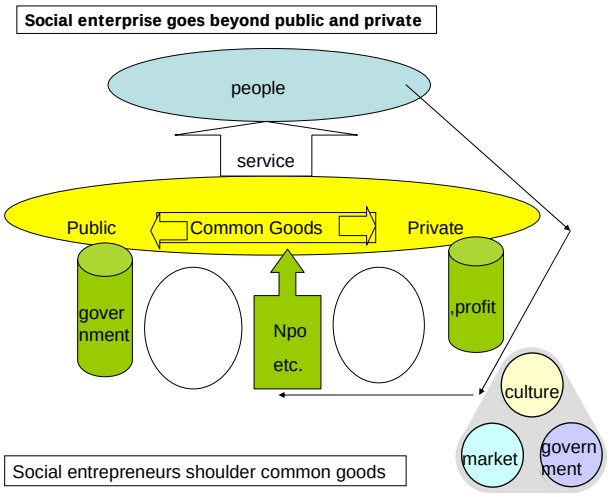
和解の世界（希望）



Social Entrepreneur

Today a concept of the social entrepreneur is non-violent and servant leadership. This concept is a new and old concept of calling what Max Weber had described as a Protestant Ethics. This is a coinage from wellbeing and business. Dr. Gregory Jones, the dean of Duke Divinity School, writes that social entrepreneur is a reminder of the Methodist's mission power in the magazine "Christian Century". This is the business model of the 21st century.

"Ashoka" a NPO is known by Japanese people because Muhammad Yunus backed up by Bill Drayton has been given the Nobel Prize in 2006. The Japanese government considers that the social entrepreneurs bears the common good which lacks in contemporary Japanese society, but social entrepreneurs will come from the moral education for which Christian schools have the responsibility.



I would like to insist that society has three sectors made by different values. Goods we need are from the market sector, the human rights of people are from the government sector, and the moral and mission for future societal needs come from the cultural sector.

I would like to quote from Dr. Greg. Jones' words, the dean of Duke Divinity School. He said in the Christian Century (07.11.27) that "We need a stronger sense of mission, one that leads us to take risks in the service of the gospel, risks such as starting new churches and creating new institutions even as we seek to preserve and revitalize those created by our forbearers." He is thinking about the social entrepreneur which is now secularized in the USA where the post-Christendom age has begun. He notices the five roles of the social entrepreneur. The first is adapting a mission to create and sustain social value. The second is pursuing new opportunities to serve that mission. The third is reengaging in a process of continuous innovation, adaptation and learning. The fourth is acting boldly without being limited by resources currently in hand. The fifth is exhibiting heightened accountability to the constituencies served and for the outcomes created.

The matter comes up again, the holy table is the symbolic action of agape and the eirene of God. This has a power to create the new community, providing a creative minority for the next age, the na-no age.

Japanese painter, Takako Hirono, gives caution for abusing the technologies. There is a non-profit organization for helping Asian children located near our university. Its leader is Ms Murata Sayaka who was shocked at the poverty and child abuse she encountered when she visited Cambodia at 20 years of age. So after her graduation, she set up the institution with her two friends. Her venture is helping the unfortunate children in Cambodia to learn I.T. technology in order to get a job from Japan. They have a small school in Phnom Penh for the children from the orphanage. Last year they started another project to help mothers in the rural areas get job training. Ms Murata often visits the business persons' meetings to invite their participation in the project.

I suggest the Japanese Christian University take the role as the go-between among the rich and the poor for the social venture in Asia and Africa. Our Christian Culture has a bridge between the western and the eastern, and a bridge between the north and the south because we have the tradition of the creative minority of the social venture in Japan.

Friendship of an agape community

For example, Mr. Ishii Juji set up the first orphanage in Japan supported by Mr. Ohhara Magosaburo who was the Christian president of Kurashiki Spinning Company. Social Scientists define his idea of management as Christian Humanism and Scientific Management. Especially, I point out that he had three Christian friends supporting his spirit and activities: that is teamwork, community and friendship.

When he assumed the presidency of that company, he openly proclaimed the idea of stewardship. He said "If I get the fortune, it is not for me but for the world. It is given not to me but to the world. So I should work for the will of God, using the money given to me for the world." And he promised Kurashiki city would be the eastern Jerusalem. It is a wonderful city filled with friendship motivated by religious vision.

Let me say, Mr. Ohhara used his life and the spinning company for the kingdom of God. For instance, he had a responsibility of caring and service to spinning girls as a personnel manager during his presidency. And he has the responsibility as the founder of the hospital. And the Ohhara Museum has a painting of El Greco. During World War II, therefore, the Allied Forces against Japan kept away from bombing the city of the Kurashiki because it has that wonderful artwork.

I would like to emphasize that his all activities are navigated by the Bible. For his motto comes from the words of I Timothy 6:17-19. "Command those who are rich in the things of this life not to be proud, but to place their hope, not in such an uncertain thing as riches, but in God, who generously gives us everything for our enjoyment. Command them to do good, to be rich in good works, to be generous and ready to share with others. In this way they will store up for themselves a treasure which will be a solid foundation for the future. And then they will be able to win the life which is true life. (I Timothy 6:17-19).

The small community has the power to start an alternative culture different from global capitalism or global colonialism. This is the small community of agape where people are educated by each other to servant leadership. Servant leadership has many elements as follows:

1. You can listen to what the person says properly.
2. You can sympathize with others.

3. If there are troubled persons, you can heal them.
4. You can appeal what you notice.
5. You have persuasive power to appeal for some big mission and aim.
6. You can conceptualize your dream properly.
7. You are far-sighted.
8. You have a role as the steward is possible.
9. You have a role in the growth of people
10. You make community vivid

I would like to quote from Dr. Greg. Jones' words again. He said in the Christian Century (07.17/27) that "We need a stronger sense of mission, one that leads us to take risks in the service of the gospel, risks such as starting new churches and creating new institutions even as we seek to preserve and revitalize those created by our forebears."

The friendship in an agape community is: For Christ who was crucified is our friend, we, Christians would not avoid wounded or unfortunate people but share their pain. So Churches, Christian Universities, Christian Hospitals and so on have to revitalize their mission in this information age.

Conclusion

In the next Nano age, I hope the small and powerful community will change the tendency of history. "Small is beautiful" is the motto of the peaceable kingdom which already economist E. F. Schumacher quoted from the Bible "Instead, be concerned above everything else with the Kingdom of God." This vision uses the truth to change the course of the history.

Yoshinobu Tobo *was born in Japan and received his degrees from the economic department of Aoyama Gakuin University and the Tokyo Union Theological Seminary. He was associate minister of Ginza Church (the United Church of Christ in Japan) between 1970 and 1975, minister of Kyoudou Midorigaoka Church between 1976 and 1982. He has been University chaplain and Professor of Aoyama Gakuin University since 1983. He held the position of visiting scholar at Duke Divinity School and has been the Executive Director of the Japan Society of Christian Studies since 2002. He has published books in the area of theology (*The Theology of H. Richard Niebuhr, Narrative Theology and Christian Ethics, *and* The Kingdom of God and Economics Ethics*, among others, and translated the works of H. Richard Niebuhr and Stanley Hauerwas.)*

Biotechnology and Environment
Water – Source of Life?!

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Abstract
Water is a limited resource in our world and many companies consider it a borderless product. Water is essential for life. Many people especially children in the less developed countries suffer from water borne diseases. In the middle-ages there were serious problems in Europe due to the lack of waste and wastewater treatment. People in Great Britain were the first to protest against this situation. New technologies like the biological treatment of waste water spread to other countries. Today, many regions demand of water is high and the amount of waste water is growing as fast as the population and the industry. To avoid problems, adapted and effective wastewater treatment is necessary. The presentation shows research projects and global cooperation on this topic.

Water a Limited but Essential Resource
Within a global perspective, water is a limited resource. Even in countries that are regarded as rich in water, as for example Brazil, regional shortages exist. Particularly in less developed countries or in poor regions, there are seasonal or continuous problems with water shortage or poor quality. This results in high child mortality and, for example in many African countries, a threat to society.
Based on the actual situation, we can expect the following (1):

- 40 % of the world population is suffering from shortage of water
- Demand for clean water will double in the future every 20 years
- In 2025, in 45 states of the world, 1.4 billions people will have to maintain their life with less than 1000 m^3 water per capita per year.

Especially in African countries deserts will increase. In developing regions water demand will be higher on account of more industrial development. Without waste water treatment, sewage in rivers and oceans will be higher and waters will become unacceptable for production of drinking water.

According to the World Health Organization (WHO) 3.4 million people die every year as a result of water related diseases. Water is the leading cause of diseases and death in the world. This year 2008, is the year of sanitation. The International Community (2,3) has committed to decreasing the number of persons who have no access to waste water treatment or washing facilities by half till 2015. Maintaining the current rate this aim will be reached in African countries not earlier than 2076.

Water Supply and Sewage Systems in Historic Context
Interesting for our discussion is a short historical digression that shows that the highly developed cultures of ancient Babylonia, Egypt and Rome were aware of the dangers of impure water and already had drainages systems. The need to separate fresh water and sewage was obvious for the ancient Romans, but forgotten during the European middle-ages, which led to the outbreak of numerous epidemics that infected a large part of the population and contributed to its decimation. A canal system was developed in which the garbage was transported away from the cities. In this system, water functioned as a means of transportation and as a means of dissolving the garbage. However the problem was not solved, but rather transferred. The rivers became extremely impure, were blackened and dispersed unpleasant smells.

Finally the population in Great Britain protested against the inaction of officials. The press alerted the population to the irregularities. As a consequence, cities began to introduce sewage treatment systems in Europe. Seen through a historical lens, these systems gradually developed in several steps and have currently reached a high standard.

The objective of sanitation is to prevent risks for humans as well as the environment.

Water in the Focus of International Business by Multinational Companies

While pipes to transport water and waste water are local networks the business area is growing and has become a global business as seen in Table 1 and 2 (based on 4).

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Table 1: The most important Multinational companies in the water sector

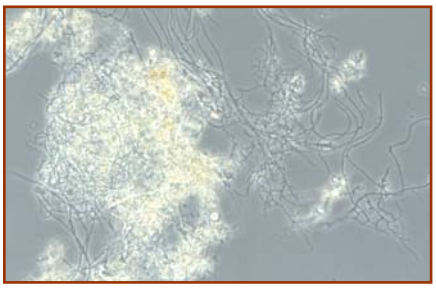
Name of MNC	**Home country**	**Subsidiaries**
Vivendi Universal	France	Vivendi Environment/Veolia +69 subsidiaries
Suez (Lyonnaise des Eaux)	France	Ondeo/United Water resources + 68 subsidiaries
RWE/Thames	Germany	Thames Water/American water Works + 7 subsidiaries
United Utilities	United Kingdom	24 subsidiaries, partnership with Bechtel
Bechtel Group	USA	6 subsidiaries
Biwater	United Kingdom	Several cooperations in Africa and Americas
Gelsenwasser (EON)	Germany	Cooperations in Hungary, Poland, Czech Republic
Aqua Mundo	Germany	

Table 2: Market of the Multinational companies in the water sector

Name of MNC	Number of costumers/Financial profit in water sector	Business sectors
Vivendi Unversial	110 Mio people in more than 100 countries/ 12.2 Bn US$ water revenue	Water, Waste, energy, transportation, services
Suez (Lyonnaise des Eaux)	115 Mio in 130 countries/ 9 Bn US$ water revenue	Water, waste management, electricity, natural gas, television, broad band distribution
RWE/Thames	70 Mio/ 1.5 Bn US$	Water and waste water services
United Utilities	2.9 Mio people, 1.7 Bn US$	Water-related services, electricity, telecommunications
Bechtel Group	134 Mio $	Engineering, construction, water services, energy, telecommunication
Biwater		Water, waste water infrastructure
Gelsenwasser	195 Mio EUR	Management of water supply
Aqua Mundo		water., waste water management systems

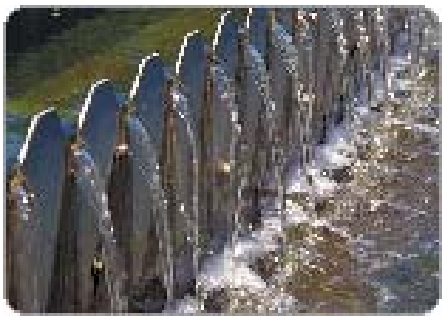
Wastewater Treatment as a Biotechnological Process

In Germany, wastewater treatment is normally a combination of mechanical, biological and chemical processes. The essential steps in biological treatment are degradation of organic substances by microorganisms (picture 1) similar to natural activities.



Picture 1: Microorganisms in activated sludge

Key players of destruction of organic materials are aerobic or anaerobic organisms. (In aerobic processes the bacteria use oxygen to grow, in anaerobic ones they grow without oxygen.) According to this fact, two different possibilities exist to manage wastewater treatment. Bacteria are able to produce a broad range of enzymes to solve particles and use them as nutrients. Whereas in Germany the majority of plants are operated with aerobic sludge systems, anaerobic ones are widespread in other regions like Brazil. At any rate, the necessary separation of bacteria from water is possible by sedimentation (picture 2 and 3) or filtration.



Picture 2: Water at the effluent of a waste water treatment plant after separation of sludge

Picture 3: Activated sludge after sedimentation in an small scale experiment

Decentralized Water Management as a New Option for Sustainable Management

The Fraunhofer Institute IGB has started a research project on decentralized waste water management in Germany and built within this project a small but very modern and effective plant for 100 persons (see pictures 4 and 5) (5). The project is funded by the German Government and done in

cooperation with several companies. This plant is running in the residential neighborhood, is closed, without smell and produces effluents better than comparable plants.

Picture 4: Inside of the small structure the decentralized wastewater treatment plant is operated in Heidelberg-Neurott (southern Germany). In front of the building is Ms. Mel Ludwig (UNIMEP, Brazil)

Picture 5: View of the inside of the structure with parts of the treatment plant.

Sustainable Management - from Sewage to Production

Sewage can be seen from different viewpoints and not simply as a dirty stream that one should dispose of as quickly as possible. That is only the one side. I want to show that although conventional procedures are very meaningful and protect people from health problems, they do not take into account that sewage also contains numerous resources.

Water is a solvent in the sewage system for inorganic salts and organic compounds. Water is also seen as a means to transport all types of waste, from human to that brought by natural events like rain or floods into the sewer canals. From the viewpoint that water is a limited resource, there are good reasons to pursue recycling strategies not only in arid areas of this earth but everywhere.

Originally and still today, a valid goal is to eliminate the undesirable content from impure water and to keep dangerous material away from human beings. This objective must remain an uppermost goal. However, substances can be recovered from sewage that can be used as fertilizer for food production and brought back to the food chain where they are used and excreted again. Through anaerobic processes and production of available substances, lasting energy sources can be found, which is very interesting within our current context of attempting to reduce carbon emissions. With modern procedures, the cycles can be continued and water used again.

Benefits of Decentralized Systems

Rainwater flows in urban areas because of the many sealed surfaces. It flows rapidly to the rivers, unused and in great quantities where it overflows causing floods. Related to this development is

the shortage of water resources in the concerned areas. Precipitation is no longer taken in by the ground, it flows away unused and cannot be used later as groundwater. A considerable benefit therefore emerges if precipitation can be collected and used locally.

Decentralized water management offers the following advantages:

- treatment of waste water nearby the user
- short distances between source of waste water and treatment plant
- reduction of costs for pipes
- production of biogas, energy and fertilizer (depending on scale)
- closed systems without noise and smell, even inside big buildings
- reuse of water
- accommodated to different scales of plants
- adaptable for different regions and demands

World-wide Learning through Cooperation

Problems and demands are different worldwide. However, human needs do not essentially differ from culture to culture so that worldwide learning from and with one another is important to finding lasting solutions both regionally and globally.

That was the motivation more than 10 years ago for the beginning of a cooperative project between the Methodist University of Piracicaba (UNIMEP) (picture 6) in Brazil and the Fraunhofer Institute for Interfacial Engineering and Biotechnology in Germany (picture 7).

Picture 6: On the campus of the Brazilian Partner UNIMEP, Piracicaba

Picture 7: Fraunhofer building in Stuttgart, Germany

How did the cooperation come about?

The partnership between the Brazilian Methodist Church and the Evangelical Methodist church (EMK) in Germany was the starting point. As member of the EMK, I came in contact with UNIMEP through several visits. The work of UNIMEP and its history of fighting strongly for social issues and transferring research results into practice as multiplier had impressed me. So, the thought originated to build also professional relationships. Professor Almir de Souza Maia and the institute-leader of the Fraunhofer IGB, until recently Professor Herwig Brunner, began discussions. We tried to identify possible areas for cooperation. Thankfully, Professor Klaus Schuetzer supported the process of developing a plan of cooperation so that a staff exchange became possible. For cooperation to work, people must get to know one another, learn to communicate on different levels and be ready to work together.

From the beginning, the topic "water" stood in the foreground. The project was given an impulse once Prof. Amos Nascimento of the international office of UNIMEP took on the project and we could solicit German research funding for an interesting project in Piracicaba. UNIMEP established together with their German partners a team that we named "H_2O" that had the cooperative research project as objective. Common projects, regular workshops and seminars were organized on this basis. For both partners new cooperative relations with communities and companies developed, which hopefully will lead to improving public welfare and furthering more cooperative ventures.

German-Brazilian research-project for decentralized water-management

Semi-decentralized systems have the advantage that they work locally, their size and position can differ and, therefore, they have a high degree of adaptability. Meaningful installation results from the realities of the location, the climatic conditions, the cultural surroundings, the population demands, and so on. The ministry for research and education of the Federal Republic of Germany approved a research grant for the Fraunhofer IGB to undertake a cooperative project with Brazil to explore the conditions for semi-decentralized water management in the region of Piracicaba and to develop adaptable solution for the location.

The topic of the common project was: "Decentralized water and wastewater treatment connected with yield of products and energy considering the hygienic aspect for the region of Piracicaba (Sao Paulo)."

Piracicaba (picture 8) is a city of 320,000 inhabitants which lies in the southwestern part of Brazil, in the highest developed region of the country with a very strong industrial base and a highly productive agricultural industry. The population is growing very quickly to meet the need for an increased labor force. In the region, there are numerous educational institutes and universities that have an important role in the total development of the area.

Picture 8: View of the skyline of Piracicaba from the riverside

The region is fertile; however, there is also an enormous demand for water due to the population density as well as industrial and agricultural needs. The sewage accumulation is

consequently high and causes considerable problems, as in many regions of the world, in the ecological domain and often leads to protests that result in political action. Limited financial resources and inefficient use of funds push the existing system to its limits.

The research-project of the Fraunhofer IGB was done in cooperation with UNIMEP, along with local facilities and German industrial partners who already had experience in Brazil. The purpose of the project was to find decentralized solutions for a long-lasting water management plan. Aspects of innovative solutions from highly effective sewage cleaning systems that had shown very good results in closed systems in small areas were taken into account. When possible and economically feasible, the production of nutrients or fertilizers from the sewage stream was considered. The removal of organic wastes in an anaerobic process resulted in a reduction in volume, on the one hand, and the production of energy from heat and biogas on the other.

Conclusion

There is a need to develop technologies adapted to the situation of the country, the culture and the climate. This requires fair and sustainable cooperation between people around the world to improve the situation for the present and future generations (picture 9).

Picture 9: Brazilian pupils having fun

Global Water Situation and Methodist Responsibility

A justifiable question is whether the water situation in different regions of this world represents a concern for Methodist churches and facilities and a challenge to active participation or whether it is rather a question that must be solved on the political level.

In my view, the responsibility for individuals and social group to eliminate abuses and develop better living conditions goes along with the central theme of announcing the Gospel and calling people to follow. In the Methodist churches this has led to a remarkable commitment by society that is well founded in Methodist theology.

In addition to his very extensive sermon activity, John Wesley worked in pastoral care, recognized social abuses, and spoke about and fought for change. To a large degree, Wesley was concerned about education and wrote an impressive number of books for population groups that had little information and were disregarded by most of society as ill-suited for information or education. That Methodist education is recognized in many countries today is a pleasant fact of this event.

The issues of our time that involve both individuals and society have become more complex worldwide. They deal with the people's survival and responsibility for our natural resources. Complexes questions increasingly ask for interdisciplinary solutions as well as international exchange, in order to learn from one another and to reach regionally and/or locally adaptable

solutions. Appropriate advances are reached only through research that is based on the actual field of application and anchored on the multiplying effects of learning.

In my view, there is a special meaning for us as members of the Methodist Church and in the sense of our connections. Our task should be to recognize abuses that lead to world-wide discrimination, loss of dignity, and even death. From this, improvements can be made in the quality of life for numerous people, even for those in the few developed countries of this world. An important prerequisite is dialogue on different levels in order to make changes and agree on common practices. One alternative could be that we promote change in the cities where we live. Demonstrate the danger of bad water quality, or present model projects at church facilities, in universities or in schools of how water can be saved and reused, how rainwater can be used and sewage cleaned or recycled.

Another possible task is to inform people and to shape childhood and high school education worldwide so that these basic and future-oriented questions are put into lesson plans and practical applications are made accessible.

It is essential to develop suitable measures that have been tested on regional needs and realities and research projects that are application oriented. From all this emerges know-how, a strengthening of international cooperation, and youth trained with applicable knowledge who can work in a society that is shaped by a sustainable economy and concerned with the welfare of the individual while taking the disadvantaged into consideration.

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Iris Ruth Trick *was born in 1953 in Neuenbürg, Baden-Württemberg, Germany, and received her PhD in Biology from the University of Stuttgart-Hohenheim. She researched and taught at the university of Hohenheim until 1984, and then became involved in the study of microbiological and hygienic aspects in medicine as part of the Medical School at the Eberhardt-Karls-University in Tübingen. Since 1985 she is an applied researcher at the Fraunhofer Society, Institute for Surface Technology and Biotechnology, working in different fields of biotechnological research. She is visiting professor at the Universidade Metodista de Pircacaba (UNIMEP), Brazil, member of the Evangelical Methodist Church of Germany (EMK), and continues her works as lay preacher and member of the Annual Conference of the Methodist Church (Southern Germany)*

Ethics and Responsibility
From the Viewpoint of the Chief Executive Officer

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Abstract
In recent news in Japan, we often hear of the problems of 'corporate ethics and responsibility.' In Japan, management philosophies and corporate ethics used to be better respected among businesses online or off. However, unfortunately, even among businesses with history and prestige, we are now witnessing a degeneration of moral values. The widespread alteration of expiration dates in the food industry and the falsification of the percentage of recycled materials contained in the postcards sold by the postal service are particularly symbolic of the problem. With the advancement of Internet technology, information travels with the speed of light. We must approach the issue of 'information ethics' just as those in the fields of biomedical and environmental ethics; where the establishment of global standards has always been of the utmost interest.

Introduction
This paper is prepared for the issue on corporate ethics and responsibility. This issue is now increasingly important in the current Japanese business world. The author is a founder and Chief Executive Officer of a company named as U-station in Fukuoka, a city that is 880 km away from Tokyo. I founded the company in 1994, and its main focus is IT consulting.

Objectives
In recent news in Japan, we often hear of the problems of 'corporate ethics and responsibility.' In Japan, management philosophies and corporate ethics used to be better respected among businesses online or off. However, unfortunately, even among businesses with history and prestige, we are now witnessing a degeneration of moral values. The widespread alteration of expiration dates in the food industry and the falsification of the percentage of recycled materials contained in the postcards sold by the postal service are particularly symbolic of the problem.

With the advancement of Internet technology, information travels with the speed of light. We must approach the issue of 'information ethics' just as those in the fields of biomedical and environmental ethics; where the establishment of global standards has always been of the utmost interest.

Motives of the discussion
On the Internet, one can easily create a virtual world that is free of a conventional set of rules but is at the same time fairly susceptible to malicious use, just as we see in Second Life, an internet-based virtual space. It is, therefore, the responsibility of every company in the IT industry to reinforce the understanding of information ethics as well as corporate ethics, in addition to providing client businesses with technology solutions.

Background
Before sharing with you my thoughts on the management of a small local business in Japan, let me first explain the general characteristics of my company and why I came to be concerned about the issues of ethics and responsibility.

Our corporate motto is: aspire to the best quality, be No.1 in the local region, and give back to the community. Our aims are to improve the images and values of our business clients, to

offer services throughout the course of project development, from unique ideas, fine designs, to promotions, and be a leader in the field of web solutions. We mainly provide services in the fields of IT consulting, web solutions, web design, system development and marketing.

Our clients are businesses, not individual customer. However, we always consider what the desirable relationship between the clients and their customer should be, because of establishing good relationships will produce a profit for our clients and us.

The world of the Internet has grown rapidly since I first established my firm fifteen years ago. With the Internet's explosive expansion and ever increasing prevalence rate, the approach towards business operations has also changed from its original foundations.

In the Internet-related industry, the biggest challenge that businesses face is risk management. These increasing risks cannot be contained by conventional physical and system-oriented approaches only. This change in the situation is what led me to realize the importance of ethics and responsibility.

When hedging risks, it is important to keep in mind the conflicts of ethics. There are significant differences between the ethics of the real world and those in the world of the Internet, and simply applying one set of rules to the other world can cause multiple problems. Obviously, the Internet is without national borders and its contents are directed towards indefinite groups of people, so establishing ethical standards for information technology is more than a difficult task.

The benefits and risks of the Internet are closely tied to each other, so we must find the right balance between the two, familiarize business clients with information ethics, and still process each task with speed. Furthermore, if the needs of a client cannot be met for ethical reasons, the company, as a moral agent, may have to give up a profitable deal in some cases. The management should be extremely careful in this decision making process. Businesses that are overly profit-hungry and neglect the importance of corporate ethics and contribution to the community will eventually lose their place in the market. The contrary approach, the pursuit of ideals only will result in disaster.

Here are some examples of ethical issues that we have encountered:

Case 1: Problems in handling personal information

When advertising condominiums on the Internet, cost-effectiveness is measured by the number of actual inquiries and reservations for open house tours made online. The personal information of customers acquired at this stage becomes essential for further promotion. In Japan, before the enforcement of the Protection of Personal Information act in 2005, most sales representatives printed out or copied such data onto their hard disks and carried them around without questioning the validity of the act. Once the law was enacted, we restricted the removal of clients' personal data, but the people in charge still went against such regulations occasionally for the reason of convenience.

To protect clients' personal information, we then proposed the use of a browse-only system which allowed our business clients to view a secured database on PCs in the office and on cell phones elsewhere. Many of our clients were reluctant to invest in the adaptation of this new system at first, due to the high cost.

After considerable discussion, we developed a system very similar to an application service provider. By providing the same service to businesses sharing the same problems, we were able to achieve low costs and also encourage clients to strictly comply with the law. As a result, they were able to protect Personal Information. Moreover, with trust and a good reputation gained, the cost of the system development was easily recovered and the whole project turned out to be fairly lucrative.

Case 2: Advertisement on an ASP-type real estate search engine

My company once created an ASP-type classified website for real estate agencies. Unlike some conventional methods of advertisement such as newspaper inserts, its advantage was that newly registered information was posted without any time lag. Once a deal was signed, the entry of the property was to be deleted from the page. It was the members' obligation to constantly update information on the page if they wished to enjoy the convenience of the website.

Unfortunately, however, certain members did not take this rule seriously and failed to update their information. We were very much concerned that obsolete material would produce false

information that could affect the reputation of the website and the company itself. It could have also led to monetary loss.

Our first measure taken to deal with the problem was to build a program where non-updated entries automatically became unbrowseable after a month. This was met with a number of complaints, since deals in negotiation also became unbrowseable.

We then revised the plan and came up with an 'update all' button, which marked all existing information as the newest. The situation seemed to improve from the creation of the button, but we still had to heavily rely on each individual's sense of responsibility to run the website.

Case 3: Problems in the closure of a community website

We had an opportunity to create a website for a cafe franchise business that was specifically targeting mothers with toddlers with its new project. They had been already successful creating cafes with different concepts and had listed each of the subsidiaries. The website functioned as an extension of the community, and the number of users was increasing for a while, but unfortunately, the operation of the cafe did not go as well and soon they were forced to cut down on costs. Under the instruction of the president, a public relations representative asked us to close down the website immediately but we first advised against the closure.

It was easy to imagine the negative impact of the closure on the operation of the actual cafe, since the users of the website and the actual customers overlapped. However, the president did not take the problem seriously. If we had been able to warn the users a few months ahead of time, we could have contained the damage. But for the representative, the order of the president was absolute, and no appropriate steps were taken before the abrupt closure.

We could see in this example that a lot of businesses are still not as aware of the importance of corporate or information ethics as they should be. If the management of the cafe franchise business respected the individuals that composed the online community and knew its potential prospects, they could have taken better measures.

When confronted with problems, I fight my urge to turn around and instead try to come up with solutions by brainstorming with my staff. In such cases, these are what I try to keep in mind:

1. Education in information ethics to users is an absolute necessity in the Internet era.
2. Any potential ethical problems related to the use of the Internet should not be overlooked.
3. Businesses must accept the diversity of values in society and approach problems from different dimensions when discussing any violation of rights.
4. Businesses must be prepared to clarify their responsibilities, justify their actions and explain the criteria of such justifications, supposing that they will receive ethics-related complaints in the future.
5. In the world of the Internet where the values are so diverse, well balanced solutions to ethical problems are obtained only by listening to different voices and being committed to the problem solving process.

Arguments

As Chief Executive of a company, I believe that businesses in the information technology industry must have a keener awareness of the problems in ethics than those of other industries, and take it as their responsibility in society. As I said before, we must discuss the issues of information ethics from a global point of view, just as they do in the field of biomedical and environmental ethics.

Standardization of information ethics is essential when solving conflicts of ethics in today's society. It will show businesses the way to fulfill their social responsibilities while hedging risks. This will also profit individual users and receivers of information.

Rapidly developing Internet communities have presented us with difficult questions that cannot be solved with conventional approaches. For their strategic pillars, businesses in this era must understand information ethics and corporate responsibilities, build a reputation and relationship of trust with customers in the ever-changing global online environment, and hedge risks without sacrificing uniqueness.

As a moral agent with such strategies, we strongly hope to provide clients with not only services in information technology but knowledge of information ethics, give back to the community and encourage its development.

Current issues of the company as a final remark

We have recently signed a contract with a system developer in Shanghai, China. This will increase the need for a good understanding of information ethics from a global point of view. We must make continuous effort to achieve this.

As a student in the International Management Research Department in Aoyama University graduate program, I was given this opportunity to present my opinions. This was a great opportunity to reflect on the issues of my company objectively.

Acknowledgement

The author would like to express her gratitude to Professor Masayuki Ida who introduced this opportunity and guided her

Sakuko Unten *is a student of the Graduate School of International Management, Aoyama University.Also she is the founder and Chief Executive Officer of a company named U-station, located in Fukuoka, a city that is 880 km away from Tokyo. She started the company in 1994, and her main focus is IT consulting.*

In the Tension between Potentiality and Limitation: Search for Responsible Mutuality

Kil Sang Yoon
Center for Pacific and Asian American Ministries
Claremont School of Theology

Abstract

The first part of the Hebrew scripture tells the story of the creation of the natural world and humans. In this text we see how the Old Hebrew understood the world and humans in it. Among the created, humans have a special place as the beings created in the likeness of God. In this descriptive reality of being human, we are confronted with the tension between potentiality and limitation. Similarly, Methodist-related Institutions of Higher Learning have faced serious ethical and moral challenges. The traditional borders disappear and yet a new system of checks and balances in individual/family life, the nation state and the global village is not yet formed to domesticate unbridled humans and their corporate desire for hegemony and exploitation.

The first part of the Hebrew Scripture tells the story of the creation of the natural world and humans. In this text we see how the Old Hebrew understood the world and humans in it. Among the created, the humans have a special place as the beings created in the likeness of God. To be created in the likeness of God implies that humans are endowed with creativity. However, humans as physical beings are bound within space and time.

In this descriptive reality of being humans, we are confronted with the tension between potentiality and limitation. Tension between yearnings for limitless creativity and yet bounded finiteness. In the same text we find a very interesting story of human attempt to sever themselves from the very fabric of which they are part and to manipulate it to the point of destruction not knowing that they erode the very ground on which they exist.

Then and now, humans are tempted by the subtle seduction to claim God-likeness as finite beings and to undermine the very ground on which they stand. In the last century, human capability in creativity and desire to utilize (conquer) the created have achieved scientific and technological breakthroughs. The invention of the Internet has exploded the information technologies. Human ingenuity has made the vast planet of earth seem like a small global village.

Due to such breakthroughs the conditions of human life in many areas have been improved. While certain and smaller segments of the global populace have been benefited immensely, larger portions of them do not have access to such means of advanced knowledge and instruments.

The haves, whether they are individuals, corporate entities, or nation states, have used their advanced know-how to exploit the have-nots in the entire realms of cultural, socio-economic, political and military capabilities.

Yet, the haves and their appetites for wealth, power, and hegemony have not shown their willingness to curb their limitless desires. Such inventions like the Internet have become cruel tools and vehicles to manipulate and control the minds, souls, attitudes, behaviors, cultural lives, productivity, markets and consumerism of all people including the haves and have-nots.

Humans have been tempted to reach even higher capacity to possess more at the expense of others and the natural environments. We are inspired to explore new things and ideas – driven by the desires to fulfill potentiality and feasibility without considering the realistic, finite and limited nature of ourselves, and the desirability of new ventures for the common good of all the inhabitance on this planet.

The Methodist-related Institutions of Higher Learning have faced serious ethical and moral challenges. The traditional borders disappear and yet a new system of checks and balances in

individual/family life, the nation state and the global village is not yet formed to domesticate unbridled humans and their corporate desire for hegemony and exploitation.

Yes. While humans are endowed with the potential for creativity and productivity with the givens of the created, yet we are finite, limited and bound by time and space. We are called to be responsible stewards and caretakers of the world and ourselves.

How could we Methodist Christians be agents of forming a new order for the global community with a higher sense of mutuality of all people and the natural environment using and utilizing the Internet – information technology we have at our disposal?

国際マネジメント研究科・Flex３年

Ｓ１１０５０１５運天左久子

iBiZ2008workshop に参加して

初めての経験でした。
国際的な会議に出席した経験は何度かあります、例えば台湾の経済界の方々とは互いの国を年に１回ずつ　つまり年２回お会いし、この２０年間　経済交流や文化交流を目的に親交を深めています。
他にも　二国間での会議においての議論は経験しましたが、今回のように広範囲な国々からの参加、、、北米、南米、欧州、アフリカそして日本は初めてでした。

ひとつひとつのテーマについて真剣な議論を通じ、発表される方の国の事情は勿論ですが、質問をされる側の国の状況も垣間見え　メディアを通してではなく直接聞けることでの強いインパクトには自分自身でもびっくりしました。
インターネットのお蔭で地球の裏側のことまでリアルタイムに情報が入る時代ですが、やはり　目の前で人間が言葉を超えて「言霊」として放つメッセージのエネルギーは、本当に素晴らしいものだと改めて感じ入りました。
また何よりも強く感じたのは　国を超えて“志”をもって集まられた方々の共通の思い、そしてお一人お一人が放つパワーの強さにぐっと惹きつけられ、その方のお国がとても身近に感じることができたのは　何よりもわたくしにとって素晴らしい経験となったことを確信します。

もうひとつ　初めての経験といえば、自分自身の発表！！会議での英語でのスピーチの経験です。「今まで生きてきた中で、こんなに緊張したことはない！」という位本当に緊張しました。
少々のことでは緊張しなくなっていた硬くなった“心”にも“頭”にも凄い刺激となり血流がよくなったようです（笑）。お蔭様で若返りましたが、会場で質問が来た時にはフリーズ！頭の中が真っ白になり、そして顔が真っ赤になるくらいシドロモドロ・・・体じゅうが紅白のお目出度い柄になっていたかのようでした。

自分でも不思議なのですが　今までも色々な状況のもと多くの人の前で講演した経験を持っているにも拘らず、今回は聞いている方々の真剣な眼差しに圧倒されたのでしょうか？！どうしてもジャガイモやかぼちゃに見えず、天に舞い上がっておりました。
先生方の応援サポートを得ることができなかったら、、、と考えると１ヶ月経った今でも心臓がドキドキします。本当にこのような貴重な体験は得がたい財産です。
このようなチャンスを下さった関係各位に心から感謝で締めたかったのですが、新たな課題もいっぱい残ったことに気がついてしまいました。
漸く大学院卒業を目前に　ＭＢＡを取得し「学びをいざ実践！！」と仕事に復帰のつもりが、知らない世界を体験し　困った事に益々好奇心が駆り立てられ、今回ご縁があった国々へ留学したくなりました。
ＩＴの会社を１５年、このＩＴ世界が海外の国々を身近なものにしてくれたことを十分に知る者ですが、ＩＴによる情報として知りえるものは単に知識であり、少し大仰に言うならば　同じＩＴを核とした今回のような交流にて素晴らしい体験の機会を得てみると、良い師・良い書・良い体験に学び自分自身を教化し学徳で潤すという本当の意味を少し理解することが出来たように思います。

うまく表現できませんが、情報として知り得た知識が　優れた人との交流にてさらに、見識や胆識まで高められ、活眼が養われることを実感した気がします。
やはり生身の人間同士の交流なくして本当に理解しあう事は難しいことを改めて痛感しました。ＩＴの利便さを活用し、できた時間・空間のゆとりを人間同士の交流を深める事で互いの違いを認め合う機会がなければ　５―ＰＯＩＮＴは絵に描いた餅であり　Standardization of information ethics を目指すなどとはとても口に出せない事だと反省しました。

５―ＰＯＩＮＴ

1. Education in information ethics to users is an absolute necessity in the Internet era.
2. Any potential ethical problems related to the use of the Internet should not be overlooked.
3. Businesses must accept the diversity of values in society and approach problems from different dimensions when discussing any violation of rights.
4. Businesses must be prepared to clarify their responsibilities, justify their actions and explain the criteria of such justifications, supposing that they will receive ethics-related complaints in the future.
5. In the world of the Internet where the values are so diverse, well balanced solutions to ethical problems are obtained only by listening to different voices and being committed to the problem solving　process.

最後に　心から感謝を持って、この経験で得た素晴らしい宝を必ず　後に続く者に伝え行動に繋げて行きたいと思います。有難うございました。

１．iBiZ2008 の内容について
２．iBiZ2008 のような海外での会議の発表について
３．自分の発表について
４．会議の運営について
５．他の参加者との交流について

第 3 部　iBiZ2009 シンポジウム

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司会：岩井千明（青山学院大学大学院国際マネジメント研究科教授）

オープンリサーチセンタ
プロジェクト報告

2009年1月

井田昌之

概要

- 文部科学省のオープンリサーチセンター整備事業に応募し、採択される（2003年度）
- 2004年度から2008年度の5年間で実施
- プロジェクト名「アジアにおけるインターネットビジネス教育システムモデルの国際開発研究」
- 目的「本研究は、産学連携と国際共同研究により、アジアにおけるインターネットビジネスに関する教育システムモデルの解明を行い、それに基づき、効果的なカリキュラムの開発方策を探求し、プロジェクト学習形式およびケース学習形式のために必要なグローバルモデルを活用し、多国間の取引および調達の教育について、複数グループによる仮想市場を通した実習を伴うというこれまでにない方式を研究開発することを目的としている。」
- ホームページを http://www.gsim.aoyama.ac.jp/ORC/ に置く
- 教育システムモデルに関する研究を次に分解し実施
  - 教育内容に関して
  - 必要とする設備・施設に関して
  - 学術研究の推進

各年次の主な課題

- 2004年度
  - インターネットビジネスラボのレイアウト設計と530室への設置
    - グループプロジェクト型学習形式
  - インターネットビジネス科目の設置
- 2005年度
  - 530室レイアウトの全面変更（ディスカッション主体）
  - インターネットビジネスプロジェクト科目の設置
- 2006年度
  - iBiZ2007を07年2月にマレーシアにて開催
  - コンテンツ閲覧・自習機能の設計と設置の開始
- 2007年度
  - iBiZ2008を08年2月にホノルルにて開催
  - 関連科目教育内容を進展
- 2008年度
  - iBiZ2009の開催
  - 仮想ショップ関連研究のまとめ

研究1
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- OIS関連科目の整備とプロジェクト型キャプストーン科目の設計と実施
- ビジネスプランニング等関連科目の派生
- Moffett Foodsシナリオ（カーネギーメロン大学開発）の応用
- I4Electronicsシナリオの開発と実装・利用
  - 製造から小売にいたるインターネットのかかわり
  - それが意味すること、企業戦略、財務分析、マーケティングなどからプロセスの再設計、ITの採用
  - 情報システムをどう構築するのか
  - 情報の流れはどうなるのか
  - Sell SideおよびBuy Sideでは何がおこるか

中核3科目の展開

- さらに掘り下げて
  - e-Business導入のインパクトはどこに
  - 適用可能な技術・コストの事前評価
  - 試行することの重要性
  - 変革の志とそれによって何を変えていけるのか
  - マーケットの中での位置は
  - 国際的な企業活動が直面するもの
  - さまざまな展開への実現力

教育効果の目標として

- 分析し、アイデアを出し、立案し、試行する
- そして評価と競争
- コスト便益分析
- どの技術なら適正に使えるのか
- どのようにチームプレイをしていくか
- 自発的な問題発見能力と自発的な問題解決能力の養成

「インターネットビジネスプロジェクト」の4ステージ構成

- 第一ステージ：ビジネスプロセス分析
  - As-is分析、To-beモデル
- 第二ステージ：Sell Side Web
  - オンライン直販ショップ：Webサイトを作る
- 第三ステージ：Buy Side 連携
  - SCM改善、企業間連携
- 第四ステージ：新技術とCreativity
  - RFIDによるトレーサビリティ（2006年度）
  - SEO／SEM（2007年度、2008年度）

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- グループプロジェクト型の学習、グループ討論を主体とした教育、のための教室レイアウトの設計と実施
- 自由閲覧コンテンツの整備とそのための器具

2005年度のラボ

2006年度

考える、討論する、生み出す

グループワーク・ディスカッション主体の教育環境

研究3
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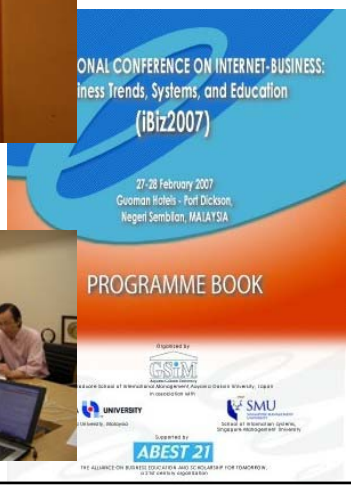
- アジアでのインターネットビジネス関連研究推進のための国際会議の実施
  - ビジネスの推進のみならず倫理側面にいち早く取り組む
- 当該分野の博士課程学生による研究の推進
- 仮想ショップ関連研究の推進
- 関連分野研究者との国際的交流

iBiZ2007（マレーシアにて）

iBiZ2007：2007年2月27日、28日

32通の論文採択（投稿47通）、2つをメイン会場で、
30は3つのパラレルセッションにて



iBiZ2007

iBiZ2008 Workshop for Net Business Ethics

International Workshop on “Global Technology, Ethics, and Social Responsibility” : An Agenda for Interdisciplinary and International Research on Borderless Net Business 2008

2008年2月10日、11日ホノルル

Graduate School of International Management, Aoyama Gakuin University, Japan

General Board of Higher Education and Ministry, United States

Methodist Institute of Educational Services, Brazil

International Association of Methodist Schools, Colleges and Universities

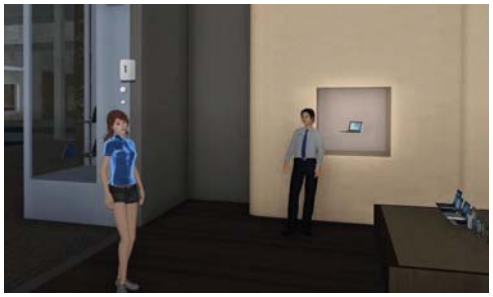
iBiZ2008

発表された論文はホームページに掲載

仮想商店街における仮想ショップに関する研究

現実空間との連続性

- 3Dのきれいさの追求：親和性
- 会話のリアリティの追及：教育、マーケティング研究
- 現実の世界ではとれない・とれにくいデータの獲得



アバター間の対話

2009年3月末まで研究は継続

最終報告は、並行して2月3月に
とりまとめ

２００９年1月１７日

オープン・リサーチセンター活用報告

前田　昇

２００８年度新設「ビジネスプラニング講座」（前田昇、高橋文郎両教授担当）での理解促進ツールの作成

下記２ツールの開発に活用した。

１．業種別ケース事例フィナンシャル・シミュレーションソフトの開発
チェンジ社　２００万円　２００７年度

２．業種別ベンチャー企業１０１社体系的データベースＣＤＲＯＭの構築
トミカクリエイト社　２１０万円　２００８年度

受講生４０人が１１のグループに分かれて１年をかけて独自のビジネスプランを創出し、現役のエンジェルやベンチャーキャピタリストのレビューを受けたが、上記２つのツールはビジネスプラン作成に大いに役立った。
学生に好評であり、来年度以降の講義でも継続的に使用していく。

以上

An Experimental Study of Classroom Layout and Settings

Tsutomu Nakano, Ph.D.

Professor of Strategy, Organizations, and Global Management
nakano@gsim.aoyama.ac.jp

January 30, 2009
Presentation at the Open Research Center Project Report Sessions
Aoyama Business School

Purpose of the Project

To see how effective the present layout and settings of Room #530 in conducting interactive class meetings

To see how effective the above as to enhance learning productivity and student skills

To see how we can further improve the above

Methods

- Conducted 13 session meetings entitled “Global Management” (“Advanced” elective class in English) in Fall 2008
- 10 MBA-level students: Mostly 1st year MBA students (Saturday 9:00-10:30 as the killing “painful” time-slot for the full-time employed students); 6 male and 4 female
- Interactive and discussion-oriented (5 cases and an MBA textbook)
- Introduced in-class group exercises: Changed the group configurations a few times (to meet “new” people)
- Used WEB to get information on the firms
- No Power Point slides used but to interact
- DVD programs such as interviews

Results

- Students actively engaged (occasionally in Japanese instead of English) in exchanges and exercises
- Generated a sense of friendship and support
- Competitive but relaxed
- Positively participated and enjoyed
- Enhanced analytical skills, logical thinking, and human skills for presentations by the mixing interactions

Conclusions and Discussion

- An effective layout and a good setting (Four tables and chairs with wheels for group discussions and exercises; face-to-face interactions by mixing chair directions; light-toned and comfortable room color; closer monitoring and attention by the walking and talking instructor)

- Changing group members a few times is effective as to generate a sense of community; and some new pressure (or tension) can induce new competition for active engagement plus exposure to new ideas or different ways to organize logic

For the Future Improvements:

- Nicer if more integrated settings (WEB, DVD, PC projector etc.)
- Better if yellow or mellow-color lighting
- Problems with the whiteboard

コンテンツ閲覧設備の整備

青山学院大学国際マネジメント研究科助教
森田　充

文部科学省　オープンリサーチセンター研究の一環として助成金をもとに青山学院大学青山キャンパス 5 号館 557 教室においてコンテンツおよび本研究科所蔵のデータベースの閲覧を目的とした環境整備をおこなった。
設備の詳細は閲覧用クライアントパソコンとして

- 東芝 EQUIUM 5150 CPU Pentium 4 3.2 GHz メモリ 1G RAM　×　12 台
- HP Pavilion v7580jp CPU Core 2 Duo 2.53 GHz メモリ 4G RAM
  グラフィックボード NVIDIA Geforece9500GS　×　6 台

を設置した。

コンテンツおよびデータベースはネットワーク接続ストレージ上に閲覧できるよう配置している。
主なデータベースは

・日経ビジネス縮刷版 DVD 1969. 10-2004. 12
・日経ソフトウエア縮刷版 DVD-ROM 創刊8周年記念対全集
・インターネット白書2007
・日経コンピューターCD-ROM 2006. 1-2006. 12 縮刷版
・日経 NETWORK 全集 2000-2006
・日経パソコン縮刷版 DVD 2001-2007

を揃えている。また学内資源の経済学部提供 NIKKEI NEEDS などにもアクセスが容易にできるようリンクの作成を行っている。

本設備内でデータの加工・分析を行うことができるように、Office2007、2003 および OpenOffice などのソフトを導入し、専門的な統計分析用のソフトである R や情報科学研究センター契約の SAS Campus Program 2000 により SAS も利用可能な状況になっている。さらにオペレーショ

ンズマネジメント分野の実習用にビジネスシミュレーションと意思決定のためのツールとして Decision Share を導入している。

オープンリサーチセンター研究の成果もまた本設備において閲覧可能で国際マネジメント研究科と東芝ソリューション株式会社が共同開発した「SCM における在庫管理」（講師　大久保秀典、監修　井田昌之）を常時利用、学習することができるよう整備を行った。また、「仮想商店街におけるショッピングについての研究」での仮想商店街のシステムも本設備において閲覧、および、研究を進めることができるよう実装を進めているところである。

本研究科では MBA の学生の修了要件として TOIEC730 点を課しているが、英語学習用のソフトウエアも整備している。

METHODIST-RELATED HIGHER EDUCATION: MAKING A DIFFERENCE ONE STUDENT AT A TIME

Dr. Wanda D. Bigham
Division of Higher Education
General Board of Higher Education and Ministry

To Dr. Masayuki Ida and his colleagues at Aoyama Gaukuin who have chosen to sponsor and plan iBiZ2009, I offer my greetings and my thanks. I had the opportunity to be present for iBiZ2008 and observed that it was eagerly received by those who were present and that important information was shared and discussed at that meeting. It gives me pleasure to be here. I look forward to participating and to hearing the other speakers and the discussion on this important topic.

General Board of Higher Education and Ministry:

I bring greetings from the General Board of Higher Education and Ministry and its General Secretary, The Rev. Dr. Jerome King Del Pino, to the administration, faculty, staff, and students of Aoyama Gaukuin University who are here today. Because some of you may be unfamiliar with the General Board of Higher Education and Ministry (GBHEM), I want to share that this is the organization of The United Methodist Church that has responsibility for the Church's relationship and services to all of its schools, colleges, universities, and theological institutions, as well as for programs and services that help to develop ethical leaders—clergy and laypersons--for church and society.

As you probably know, the Methodist Church was begun in England by The Rev. John Wesley who immediately established a school, not only for the people in his parish, but also for the sons of miners in the area. He encouraged those who carried his message in England, and then to other countries, to build a church and a school. Over the years, many schools, colleges, and universities were started by the clergy and the missionaries who carried the message of God's love and of "education for the common good" around the world.

My role at GBHEM is to provide leadership for the Division of Higher Education. That includes not only serving the 122 schools, colleges, universities, and theological schools in the United States, but also serving selected institutions around the world. One of the major assignments in the world is to assist Africa University in Zimbabwe. It is the only institution established by the whole United Methodist Church. Another responsibility is to assist institutions around the world established by churches of the Wesleyan tradition. In the l980s, the highest legislative body of the United Methodist Church, the General Conference, authorized GBHEM to provide technical assistance to any of those institutions that request our help. We have identified 775 such institutions in 69 countries, and Aoyama Gaukuin University is one of those institutions. I am happy to report that Dr. Masayuki Ida is a member of the executive committee of the board of the International Association of Methodist Schools, Colleges, and Universities (IAMSCU), the membership organization for those institutions. Also with us today is Dr. Ted Brown, President of Martin Methodist College, who is the president of IAMSCU.

Both in my role as the head of the Division of Higher Education and in my role as Executive Secretary of IAMSCU, I work with selected groups to offer conferences and institutes that provide opportunities for professional development and that encourage networking and sharing among those institutions and their constituents.

You will be interested, I think, to know that within the past year at three meetings in the US, we provided programming regarding the teaching of global ethics to our constituents. At the meeting of IAMSCU last summer in Argentina, a similar program promoting the teaching of global ethics was offered to all who attended that conference. I will give more details about these programs later in this program. My point is that the teaching of global ethics is very high on the list of priorities for institutions the US and for many in the Wesleyan tradition around the world. Very, very few of those institutions are "owned" by the church. Some still receive a modest—and declining—amount of financial support, and yet they continue to call themselves "church-related," honor the traditions of their founding fathers and mothers, and believe that their messages of love, development of the whole student, principled leadership, and global ethics are important. They vary greatly in the way they communicate that status and implement programs because each is administered by its own president and governed by its own board. My office has the opportunity and the joy to work with institutions around the world as they continue to serve in roles envisioned by John Wesley.

Now, let me share a little about what that means in relationship to this iBiZ conference.

My Introduction to the Internet:

I can remember the exact time that I first heard the word "Internet." A prospective faculty member at Marycrest College in Davenport, Iowa, where I was president in the late 1980s, asked me in his exit interview if we had access to the "internet." I had never heard the word. I asked him to explain what he meant. While we did not have internet access at that point we soon did, probably around 1989. Faculty required it, and it was apparent that we could not serve our educational mission without having access, not only for faculty, but for students and others in the college community.

When I became president of Huntingdon College in Montgomery, Alabama, in 1993, one of the first challenges for the faculty and for me was to update and expand the curriculum—one that the presidential search firm had called "tired." Within a few months of diligent and thoughtful work, the faculty and I agreed on the new "Huntingdon Plan," a model that in addition to revising the core curriculum and adding research and hands-on experience, also provided a computer and internet access for each student. In addition, all faculty and staff had the same access and software programs.

Along with teaching students the various uses of the computer and internet . . . and sometimes letting them teach us . . . we quickly learned the ethical challenges of working with this new and always changing technology. For example, we soon became aware that students (and probably others) were downloading music and videos. It not only tied up our bandwidth, it was illegal. We had to put in place programs and guidelines to warn them and protect them, as much as we could, from those who were predators of one kind of another.

We came face-to-face with the fact that this new technology brought with it numerous ethical considerations. And, of course, that was just the first of many issues relating to technology, internet business, and ethics.

Ethics:

Let me stop here and talk about ethics. The dictionary defines ethics as the rules or standards governing the conduct of a person or the members of a profession. Simply put, it is how we make choices about what is right and what is wrong.

One of my favorite examples of this type of decision-making is the report from the *Washington Post* newspaper of Washington, DC, indicating that Arthur A. "Stumpy" Whitehurst had spotted a wallet on the hood of a car in Northwest Washington, DC. The wallet was full of cash and credit cards. The story related that Whitehurst, a 45-year old day laborer who could have used the money, waited for the owner and returned the wallet.

His friends laughed at him and told him he was a fool. Whitehurst, however, was reported to have said, "I saw it, and my heart said 'Give it back.' In my heart I know stealing is wrong, and I know that I am an honest man."

It troubles me—it should trouble each of us that this story is news! In the small town in Western Kentucky where I grew up, this would not be news. On hearing the story that he had returned the wallet, people would say, "Of course, what did you expect?" I hope the same was true where you grew up. Expectations of honesty were practiced and taught by our parents and families and in our churches and our schools. What was taught in one environment was reinforced in the others. Adults lived with the awareness that "there is a child watching you." Adults reminded us of the value of a "good name" and that it was important to be a person who could be trusted.

Whitehurst said, "I know that I am an honest man." Can the men in this audience say the same thing? Can the women affirm that they, too, are honest?

John Maxwell, well known writer of books on management and leadership, reports in his book *Ethics 101,* that he was once asked by an editor to consider writing a book on business ethics to which he responded that there was no such thing--there being only ethics. I am inclined to believe the same. While it is true that the internet presents many personal and business options that were previously unavailable, the nature of ethics is still "Are you an honest man—both in the daylight and in the dark; in a crowd or when you are alone; when you are known or when you are unknown?"

I recently heard The Honorable Paul O'Neill, former Secretary of the Treasury, who was appointed and then fired by President George W. Bush, indicating that he had been invited last July to participate in a session at which the economic outlook would be discussed with then-presidential hopeful Barack Obama. He indicated that he agreed to participate only if it were known to all that he would speak the truth as he saw it—not a party line. Should we not all feel that we not only can but must speak the truth as we see it?

Some Challenges of New Technology:

The internet has brought wonderful new opportunities for personal associations, business, education, entertainment, and skill development. And it is "new" and changing every day.

Those students whom I mentioned who were downloading music and videos did not know at first that this was wrong, even illegal. Often, things are "wrong" but the laws that make them illegal have not been written or perfected.

Just last month, I was in a remote location where I had to use dial-up access for the internet. I am accustomed to having broadband both at home and office and access to wireless when I travel. My only available access on this occasion was slow, slow dial-up. I was frustrated. When I checked wireless options, I found several names listed, but I did not know whether I had the right to tap into those options. I tried and it worked; then the little voice in my head said, "Do you think this is all right?" It was a gray area for me; so I called our technology staff at the office and was told that it was illegal to use another individual's wireless access. I immediately disconnected and did not try that again.

I am troubled by the aggressive and deceptive advertising by corporations and organizations and, especially so, by groups and/or individuals for whom anonymity and the internet give them access to the vulnerable, the uninformed, the needy, the greedy, and the sick. You know what I mean. Just this week when I opened my e-mail, my mail included these few examples. I had several letters that had not been trapped by the spam catcher in which the senders offered me from $2M to $9M from individuals purportedly on the continent of Africa. I had two notices by banks that I do not use indicating something was wrong with my accounts and that I should click on a link and provide information to solve the problem. My eBay account had been compromised, so I was told, and I should follow their link. Finally, I had a message that someone named "Frisky" who wants to be my loyal

friend! Around the world, internet fraud is a daily reality and something we take precautions to prevent it from happening to us. Identity theft, extortion, investment fraud, credit card fraud, lotteries, auction fraud, debt elimination, employment or business schemes, the "Nigerian letter, phishing, and Ponzi are just a few of the schemes we must guard against.

Neither I nor my colleagues at these 775 institutions in the Wesleyan tradition can solve these problems; however, we must make a difference for those students and constituents at our institutions. Each time a person who is confronted with dishonest practices says "no," either at the corporate level or the individual level, the world is a better place. And certainly that individual's life is a better life.

Selected Activities at Methodist Schools, Colleges, and Universities around the World:

As I indicated earlier, the Division of Higher Education at GBHEM provides programming that is offered to the 775 institutions around the world. I want to draw attention to two projects that relate to teaching ethics and ethical leadership at some of those institutions.

First, I would like to tell you about a program of ethics at the institutions in the United States. A few years ago, a board member of the United Methodist Foundation for Higher Education encouraged the teaching of global ethics. He provided a grant to bring together a group of presidents who were interested in this topic. At my request in the spring of 2008, Dr. Mark Davies and Dr. David Rowe, founders of OIKOS (oikosmovement.org) and administrators at Oklahoma City University and LaGrange College respectively, spoke on the topic of global ethics at a meeting of presidents of United Methodist institutions. At that meeting, Drs. Rowe and Davies received the presidents' endorsement for taking this topic to other members of the academic community. In summer 2008, a workshop was held on the same topic for faculty, academic deans, student life deans, chaplains and church relations directors. The effort at this workshop was to reach those would teach or plan activities on this topic for students at the institutions. What a fine conference it was, and at the end the participants decided that they wanted to continue to discuss, share, and prepare curricular materials to be used at their institutions. Through Dr. Davies and Dr. Rowe, we joined the Epsilon Program at *The New York Times* that gave us access to great resources and enabled the faculty to work together on-line to develop materials for their classes and activities. That program continues and will be expanded this year. We have recognized that global ethics means more than personally behaving honestly; it means taking actions that are ethical. We have adopted these themes relating to global ethics for the first three years: Peace, Poverty, and Planet Earth. Our workshops in the US for at least the next two years will continue to explore these topics and the ways our students can be engaged. It is our hope they will be engaged not only while they are at the universities, but will continue throughout their lifetimes.

The second activity is an expansion of this project to a global level. GBHEM has a global program of leadership development called Methodist Global Education Fund for Leadership Development (MGEFLD) under the direction of Dr. Ken Yamada, a graduate of Aoyama Gaukuin University, who until 2005 was Associate General Secretary of the Division of Higher Education. He is now a Special Assistant to the General Secretary and is leading several global projects, including MGEFLD. In this project, he is developing partnerships between GBHEM and selected institutions around the world to enhance their programs of leadership development. This renowned leader from your university has been and is making a difference around the world. Selected projects are already underway in Mozambique, Congo, and Argentina to expand educational and leadership development opportunities for many who have not previously had such options.

Finally, I praise you for sponsoring this program that provides information, awareness, and encouragement regarding ethical practices in internet business. Aoyama Gaukuin and its many sister institutions make a difference in the world—make a difference in the lives of their students—one student at a time.

Thank you and best wishes.

「デジタル情報革命と世界経済危機」

～経済危機下におけるビジネススクールへの期待～

2009 年 1 月 30 日
藤原洋
青山学院大学院国際マネジメント研究科特任教授
株式会社インターネット総合研究所代表取締役所長
株式会社ナノオプトニクス研究所代表取締役

はじめに

世間は、米国発の世界の金融に留まらず経済危機の様相を呈してきていますが、歴史を紐解くと、起こるべくして起こっている変化だと解釈しております。というのは、企業経営の傍ら、東京大学大学院数理科学研究科に加えて、2008 年度から青山学院大学ビジネススクールで教鞭をとることになり、産業革命史の研究を始めた中で、株式会社の元祖、オランダ東インド会社に関わるチューリップバブルから約 400 年を振り返ると様々なことがわかってきました。世界中のどこかで起こる「好調な経済」、「拝金主義から生まれる熱狂」、その後の「経済危機」によって、人々は甚大な経済的被害を受けますが、必ずしもそれだけではなく、技術革新による新たな産業が創出されてきました。そこには社会的風潮の中にあっても、危機をチャンスととらえ行動する企業家の姿がありました。

本講演では、私自身も企業家として参加すべく、現在の時代認識と経済危機の歴史から、今後の新産業革命の展望をお話できればと思っております。

目次

１． 現在の時代認識～デジタル情報革命後の現在とは？～
２． 経済危機の歴史と問題の本質
３． 産業革命を担った人々～時代を創るのは企業か個人か？～
４．新しい産業革命のために

１．現在の時代認識

～デジタル情報革命後の現在とは？～インターネットの誕生から現在まで

- デジタル革命後の現在の時代認識
  - 世界金融危機、資源エネルギー危機の中でベルリンの壁崩壊以来の全く新しい何かが胎動している。

- 激動の時代にビジネススクールで何を学ぶか？
  - これまでの時代に重要だったことと今後重要なことが変化している
    - ①　「どの企業と契約するか？」
      - 今後は「誰と仕事をするか？」が重要になる
    - ②　「どの組織に所属するか？」
      - 今後は「何をするか？」が重要になる
    - ③　「何をやってきたか？」
      - 今後は「現在・近未来・未来に何ができるか？」が重要になる

- 担当する講義（デジタル情報革命関連）

  「ネットビジネス」「起業と IT」「インターネット・ビジネス・プロジェクト」
  - ビジネススクールで学ぶことは社会環境の変化の本質である。

２．経済危機の歴史と問題の本質

経済危機は社会全体が拝金主義的熱狂に陥った後に訪れる。経済危機は、「投機」によるバブル崩壊と密接に関係している。「投機」とは、シュンペーターの定義では「証券価格の変動から利益を得ようとする行為としている。またケインズは「市場の心理を予測する行為」としている。

経済危機を生む投機の歴史を振り返ると以下の事例がある。これらの歴史から経済危機の本質とその後にどんなことが起こってきたのかがわかる。

	経済危機		本質	その後
1	1630年代	オランダのチューリップバブル（世界初）	説明できない需給関係だけで決まる市場価格の登場（バブルの象徴）	実体価値を越えた対象への投資＝投機という認識＋実業への回帰
2	1716～20年	フランス王国のジョン・ロー事件	説明できない需給関係だけで決まる市場価格の登場（バブルの象徴）	事業実体の乏しい株式＝投機という認識＋フランス革命
3	1720年	英国南海会社バブル事件	ガリバー旅行記のスウィフト詩『バブル』（1720）で熱狂の空虚さを指摘	事業実体の乏しい株式＝投機という認識＋産業革命
4	1929年	米国の「Black Thursday」	1920年代米国の好調な経済への過信による株式投資、社会現象だった	株式市場の過熱はさめるという認識＋ニューディール政策
5	1987年	米国の「Black Monday」	その後市場は回復し、1990年代～2000年代への踊り場だった	デジタル情報革命の落とし穴 ＝ 一斉売却の認識 ＋ ヘッジファンドの歯止
6	1980年代後半	日本の資産バブル	バブルとは特定の国で起こる、経済力過信による社会心理的投機現象	日本の経済力の過信の認識＋不良債権処理手法の確立
7	今日	米国発サブプライムローン/原油価格バブル	金融単独資本主義の崩壊	「金融単独資本主義」弊害の認識＋新産業革命創出機運の始まり

◆ 今日の経済危機の本質

サブプライムローン問題は、「約７兆円程度の不動産ローンが 100 倍程度の不良債権に膨張」したことが問題であり、原油価格の暴騰は「実需要と乖離した価格設定メカニズムの崩壊」である。

３．産業革命を担った人々

～時代を創るのは企業か個人か？～

今日の経済危機の後に何が訪れるのか？金融単独資本主義が崩壊し、新産業革命創出機運の始まっているという話をしてきた。これから産業革命を担う人々について歴史を振りかえってみたい。時代を創るのは企業なのか？それとも個人なのか？

社会発展の歴史におけるテクノロジーの役割は新しい社会を創ることである。歴史をみると、テクノロジーが社会に変化をもたらしてきている。例えば、兵器や農機技術は、土地の所有者を領主、その土地にいる人々を領民という「封建社会」を創造した。動力機関や物質科学は、資本家と、モノを生産する労働者という「工業社会」を創造した。情報技術（IT）は、情報を対象とした生産者と消費者という「情報社会」を創造した。

1. 第一次産業革命～動力革命～

   動力革命の推進原理（アイザック・ニュートン（1642 年～1727 年））

   ・「力学」を確立し近代物理学の基礎を築き、微積分では数学にも大きな功績

   ・「動力革命」の推進原理としての「力学」は産業革命の基礎を与えた

2. 第二次産業革命～ドイツの重化学工業革命～

   重工業革命の推進原理

   ・ 材料物性や化学変化を制御するための「物質科学」

   ⇒背景として、十九世紀後半から二十世紀の前半に、量子力学で有名なハイゼンベルクや触媒作用・化学平衡・反応速度で有名なオストヴァルトなど多くの優れた物理学者や化学者がドイツから出現した。

3. 第二次産業革命～アメリカの重化学工業革命～

   物質科学の推進原理

   ・アルフレート・クルップ、ゴットリープ・ダイムラー、カール・ベンツ、ヘンリー・フォードなどの産業革命の担い手となる、企業家の人間力が原動力となっている。

4. 第三次産業革命～デジタル情報革命～

   数理科学の推進原理（「数理科学」による「科学」の再構築）

   ・デジタル情報革命の推進原理は、対象が「情報」であるため、ハードウェアとしての「ムーアの法則」に代表されるマイクロエレクトロニクスデバイスとこれを相互接続するインターネットであり、その上に存在するソフトウェアとしての「数理科学」である。

   ・デジタル情報革命は「コンピュータ」と「インターネット」の登場で進展し、「数理科学」が推進原理となっている。「数理科学」は、非決定論的学問から科学の対象への構造変化をもたらした。

◆　時代を創るのは「企業家」と「学者」である。

パソコンの発明者と非発明者　　⇒　個人はパソコンを考える、主力企業はパソコンなど考えない

インターネットの発明者と非発明者　⇒　個人はネットを考える、主力企業はネットなど考えない

４．新しい産業革命のために

～経済危機からの脱却へ向けて～

産業革命史が塗り替えられようとしている。

「デジタル情報革命」から「環境エネルギー革命」へ

18世紀～19世紀のイギリスの紡績機械（水力）やイギリス鉄道（蒸気機関）の推進原理は「力学」による動力機関であった。19世紀末～20世紀のドイツ重工業（電力機、鉄鋼）、アメリカのＴ型フォードからの大量生産、自動車産業、石油の時代の原理は、「物質科学」による重化学工業であった。20世紀末は、「数理科学」による情報産業が興り、膨大な電力消費社会へと変貌してきた。
21世紀初頭にあたる今日は、「宇宙/物性物理学」による環境エネルギー産業が新たな産業革命となる。

日本政府が推進する具体的な重点指向分野

① ライフサイエンス
② 情報通信
③ 環境
④ ナノテクノロジー・材料

上記は、珍しく当たっている政府方針である。

21世紀の日本が目指すべき科学技術創造立国は、「改良技術」立国から「発明・発見」立国へとシフトすることである。

【出発点となる４つのこと】

① 「科学者と技術者」には、自然発生的に「好奇心と探究心」が芽生え、とんでもない「発見と発明」をしてしまうことがある。
② とんでもない「発見と発明」が「生活習慣と商習慣」を変え、「制度と法律」を根本的に変える。
③ このような「社会の部分的変化」をもたらす、一連の「発見と発明」を「技術革新」と呼ぶ。
④ さらに一連の「技術革新」を「企業家」が新たな産業を興すことでもたらされる「社会の構造変化」を「産業革命」と呼ぶ。

【４つの大切なこと】

① 「科学者と技術者」に「発明と発見」の機会を作る
② 「発見と発明」に応じた「生活習慣と商習慣」＋「制度と法律」の発明
③ 「産業革命」に挑戦する「企業家」の存在
④ 「産業革命」を成功へ導く「ビジネススクール」の存在

以上

オープンリサーチセンター最終報告会講演資料

「デジタル情報革命と世界経済危機」

～経済危機下におけるビジネススクールへの期待～

2009年1月30日

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はじめに

世間は、米国発の世界の金融に留まらず経済危機の様相を呈してきていますが、歴史を紐解くと、起こるべくして起こっている変化だと解釈しております。 というのは、企業経営の傍ら、 東京大学大学院数理科学研究科に加えて、2008年度から青山学院大学院ビジネススクールで教鞭をとることになり、産業革命史の研究を始めた中で、株式会社の元祖、オランダ東インド会社に関わるチューリップバブルから約400年を振り返ると様々なことがわかってきました。世界中のどこかで起こる「好調な経済」、「拝金主義から生まれる熱狂」、その後の「経済危機」によって、人々は甚大な経済的被害を受けますが、必ずしもそれだけではなく、技術革新による新たな産業が創出されてきました。そこには、重苦しい社会的風潮の中にあっても、危機をチャンスととらえ行動する企業家の姿がありました。本講演では、私自身も企業家として参加すべく、現在の時代認識と経済危機の歴史から、今後の新産業革命の展望をお話できればと思っております。

目次

1. 現在の時代認識
～デジタル情報革命後の現在とは？～

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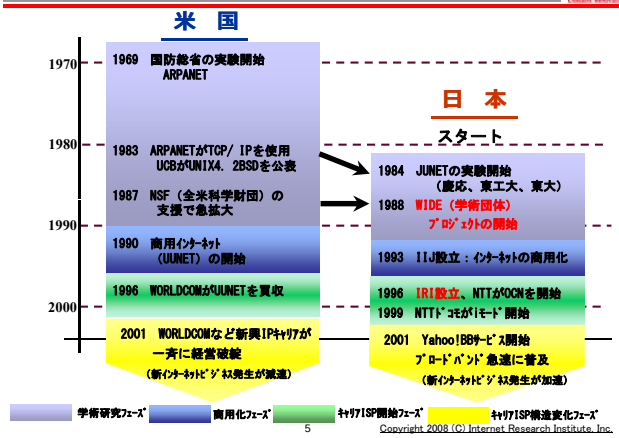
～時代を創るのは企業か個人か？～

4 新しい産業革命のために

1. 現在の時代認識

～デジタル情報革命後の現在とは？～

社会を根本的に変えた20世紀最大の発明＝インターネット



デジタル革命後の現在の時代認識

●日本の社会構造が内的にも外的にも大きく変化している。内的な変化は少子高齢化であり、外的な変化は、米国発世界金融危機、BRICs（ブラジル、ロシア、インド、中国）の台頭である。新興大国の急激な成長による資源・環境問題が深刻化している。

●バブル経済崩壊の後始末に大手銀行に公的資金が注入された頃、私は、12年前IPネットワークの構築・運用技術によるデジタル情報革命を推進する研究開発型企業を創業。

●インターネットは20世紀最大の発明であり、社会を変えてきたのは、イデオロギーではなくテクノロジーである。そして先進国になった苦しむ日本のとるべき方向性は、崩壊した金融単独資本主義ではなく、科学技術を基盤にした産業による資本主義である。

●世界金融危機、資源エネルギー危機の中で、ベルリンの壁崩壊以来の全く新しい何かが胎動している。

激動の時代にビジネススクールで何を学ぶか？

●これまでの時代に重要だったこととは？

①「どの企業と契約するか？」

⇒今後は「誰と仕事をするか？」が重要になる

②「どの組織に所属するか？」

⇒今後は「何をするか？」が重要になる

③「何をやってきたか？」

⇒今後は「現在・近未来・未来に何ができるか？」が重要になる

●私の担当する講義（デジタル情報革命関連）

⇒「ネットビジネス」「起業とIT」「インターネット・ビジネス・プロジェクト」

ビジネススクールで学ぶこと⇒社会環境の変化の本質！

2. 経済危機の歴史と問題の本質

経済危機とは？

●経済危機は、「投機」によるバブル崩壊と密接に関係。

●経済学者のシュンペーター
・証券価格の変動から利益を得ようとする行為が「投機」
・証券が表す事業からの収益に興味を持つのが「投資」

●ケインズ
・資産の全期間にわたる収益を予測する活動を「事業」
・市場の心理を予測する行為を「投機」

●経済危機を生む投機の歴史
・チューリップ、貨幣、国債、外貨、株式、銀行、輸出入商品、運河、土地、金など

●経済危機が起こる条件
①特定の国における好調な経済
②多数の投機家が参加することによる熱狂と後悔
③急速に膨張し一定期間継続して崩壊
④後遺症＝不況の処理に一定期間を要する

経済危機＝社会全体が拝金主義的熱狂に陥った後に訪れる！

【1】1630年代オランダのチューリップバブル（世界初）

●最初のバブル17世紀オランダのチューリップ投機

●1630年代のオランダは、繊維産業を中心とする好況期（欧州一の経済力、消費天国）

●オランダ東インド会社のインドネシアへの入植は成功し同社の株式は17世紀上昇

●トルコからチューリップが入り、異国趣味を求める金持ちたちが富の象徴へ

● 特に珍重されたのは、センパー・アウグストゥスという花弁に斑が入った種類

●1634年から37年にかけて、センパー・アウグストゥスの球根1個の価格は2000ギルダー（普通の市民の年収8年分）から6000ギルダー（25年分）に高騰

●一般職人なども投機に参加した。取引の主流は業者同士の相対契約から、カレッジと呼ばれる小屋などを舞台にした一種の市場取引に変化（球根の先物取引）

●1637年2月、チューリップ市場は突然崩壊し小規模取引業者などに甚大な被害

⇒バブルの象徴＝説明できない需給関係だけで決まる市場価格の登場！

【2】1716～20年フランス王国のジョン・ロー事件

●英スコットランド出身の経済思想家、実業家、財政家、真手形主義や稀少価値論提唱

●フランス（ルイ16世）財務総監に就任、初の紙幣を発行

●フランス王立銀行(1716)を設立：紙幣発行権をもつ銀行
⇒ロー構想「貨幣が増えると経済取引も連動して増えると経済取引も連動して増える」
⇒フランス国民による貨幣による納税の仕組み

●フランス領ルイジアナミシシッピー開発を担保とした不換紙幣を発行しルイ14世が生み出した多大な財政赤字の解消に寄与

●紙幣を最大限活用して資産価格を上げることを狙い、植民地アメリカ・ルイジアナの開発会社、通称ミシシッピ社を設立

●不換紙幣は実際にミシシッピー開発が生み出す価値以上の値を付けるバブル経済化、1720年の取り付け騒ぎが起こると支払い能力以上の現金が引き出されミシシッピ計画が破綻した。⇒銀行（融資）→ミシシッピー社（国債買取）→投資家（株）→ミ社→銀行

●ミシシッピー社の株価が上昇を続け（株価は需給で高騰）全員が勝者となったが破綻

⇒1720年この破綻から貴族社会の終焉＝フランス革命へと発展した！

【3】1720年英国南海会社バブル事件

●英国の南海会社は、1711年設立、株式発行で調達した資金で英国債を引受け
⇒ミシシッピ会社と同様の金融面で資金を国債で運用する会社型投資信託

●南海会社は、政府の免許を得て植民地事業を運営し、独占的な奴隷貿易権を取得
⇒政府はこうした独占権と交換に、国債引受けを要求

●南海会社1720年１月から英国債の購入加速＝南海会社の株価が高騰（半年で10倍）
⇒資金調達のために株の値上がりを演出するために追加の国債引受枠を認可と株価自由決定権を取得：首相、蔵相、国王関係者にまで株の購入権を贈与。

●多くの会社に共通していたのは、南海会社と同様、植民地開発の夢を売ったが、実業部門は赤字で、株価上昇時にだけ存続

● 1720年夏、バブルははじけ、南海会社の株価は2ヶ月で一気に5分の1に下落

⇒ガリバー旅行記のスウィフトの詩『バブル』(1720年)で熱狂の空虚さを指摘

【4】1929年米国の「Black Thursday」

●第一次大戦直後の反動不況後、1920年代の米国にはニューエコノミーが出現
⇒22~29年には平均実質成長率4.7%、失業率は3.7%へと大幅改善

●住宅建設ブーム、家電品の普及、T型フォードの登場、電話・ラジオの登場
⇒デュポン、GMなどの巨大企業が成長:
⇒企業利潤は、搾取、詐欺のイメージから社会的貢献の意味へ変化

●株式市場の強気ムードが台頭(平均株価は26年から29年にかけて2.2倍に上昇)

●米金融当局は欧州の中央銀行からの要請を受け、米欧間の金利差の是正
⇒1927年国内金融を緩和しバブルを助長
⇒1929年までマネーサプライ(通貨供給量)は大幅には増えたのではない
⇒資金がウォール街に集まったのは、信用取引の資金を融通するブローカーズローン市場と株式発行で調達した資金で他社の株を買う会社型投資信託の発達

●1929年10月24日、「Black Thursday」株価暴落(株価は7分の1に下落)
⇒世界大恐慌、信用取引の追い証の圧力と情報の混乱が心理パニックへ
⇒1929年のピーク回復までに大不況の10年と第二次大戦を経て22年かかった
⇒株価崩壊には諸説あり

1920年代米国の好調な経済への過信による株式投資＝社会現象だった！

【5】1987年米国の「Black Monday」

●1987年10月19日、香港、マレーシア、シンガポール、ヨーロッパ市場で株価が暴落
⇒ニューヨーク市場では買いがまったく入らない状態
⇒機関投資家のコンピュータープログラムは、一斉に同じ銘柄の売りを指示

●ダウ平均株価の一日の下げ率22%は、1929年の「Black Thursday」の2倍

●1981～89年のレーガン政権の新保守主義経済政策は、米国の産業競争力を強化
⇒好調な実体経済を背景に70年代から始まった金融改革の象徴デリバティブ(金融派生商品)へ期待が集中
⇒先物やオプション(買う権利や売る権利)が多用(5%程度の証拠金で取引可能)
⇒82年にシカゴのS＆P先物(投機的商品)の取引額＞ニューヨーク市場の現株取引

●ジャンクボンド(ハイリスク高金利債権)で調達した資金で経営不振企業を買収し、大胆な経営改革で株価上昇後売却する手法が注目

●金融革新の背後には、コンピューターと通信技術の発達があった:数百兆円/日

●相場の上下両方で利益を上げるヘッジファンドが、世界の市場を席巻し98年に破綻

その後株式市場は回復し、1990年代～2000年代への踊り場だった！

【6】1980年代後半日本の資産バブル

●日本の製造業は、1980年代、労働生産性、技術力、日本的経営、企業系列、品質管理、官庁と経済界の協力関係で世界市場で優位に=Japan as No.1!
⇒国民総生産(GNP)/人が米国を超えた

● 世界最大の債権国日本を世界の金融センターへと金融自由化が進行
⇒新株引受権付き社債などを企業が大量発行
⇒18世紀フランスのミシシッピ会社やイギリスの南海会社同一手法:「企業の財テク」
⇒企業による株式投資と不動産投資
⇒東京と全国の地価上昇
⇒1987年以降の資産価格の上昇＝バブル

●日本の銀行は二つの特徴
⇒不動産担保融資への偏重と株式資産の保有
⇒与信と資産価格上昇の循環が投機を誘発
⇒日経平均株価のピーク=38915円:1989年末
⇒資産価格が暴落し1992年以降バランスシート不況へ突入
⇒1997年以降金融機関の破綻と再編へ

バブル＝特定の国で起こる、経済力過信による社会心理的投機現象！

【7】米国発サブプライムローン/原油価格バブル

①サブプライムローン問題
②原油価格の暴騰問題

●金融の役割は、生産活動の支援であり、単独では存在しない！
●米国単独主義の終焉(軍事面・経済面)

景気を拡大を「演出」し続けなければならない
「金融単独資本主義」の崩壊

今日の経済危機の本質

その1: サブプライムローン問題

①過剰反応の金融資本主義がもたらしたITバブルで不動産が上昇局面のまま推移
②米国の低所得者層の住宅購入心理をついた
③借り手の自己破産確率を計算式に折り込んだ金融商品に
④同金融商品を証券化(MBS:モーゲージ担保証券)し、多くの投資家に販売
⑤複数のMBSと他の金融商品との組み合わせた証券化(CDO:債務担保証券)
⑥金融機関がCDOを資金運用対象とする投資事業体(SIV)を組織し資産担保コマーシャルペーパー*(短期約束手形)を発行
⑦モノラインと呼ぶ証券化(又貸し)の間に債務保証会社が介在し債務保証と格付け機関によるAAAの多発

約7兆円程度の不動産ローンが100倍程度の不良債権に膨張！

今日の経済危機の本質

その2: 原油価格の暴騰問題

【表面的理由】
①中国、インドなどBRICs諸国の経済成長で原油需給が逼迫？
⇒原油の需要は、安定しており、増減率は1%以下
②サウジアラビアに次ぐ第二の産油国ベネズエラに、親米から全く逆の反米チャベス政権の台頭OPEC同調を表明⇒非本質的
③イラク戦争でイラク原油が出てこない⇒非本質的
④2004年の中国の炭田事故で原油需要の上昇⇒突発現象

【本質的理由】
①石油メジャーの株主構成の変化機関投資家比率の上昇
⇒油田開発よりも、配当と自社株買いを経営陣に要求
⇒配当と自社株買いは30%代から60%代に上昇
②2004年から投資信託のポートフォリオに原油の組み込み

本質＝実需要と乖離した価格設定メカニズムの崩壊！

経済危機の後に何が訪れるか？

【1】1630年代オランダのチューリップバブル
⇒実体価値を越えた対象への投資＝投機という認識＋実業への回帰

【2】1716～20年フランス王国のジョン・ロー事件
⇒事業実体の乏しい株式＝投機という認識＋フランス革命

【3】1720年英国南海会社バブル事件
⇒事業実体の乏しい株式＝投機という認識＋産業革命

【4】1929年米国の「Black Thursday」
⇒株式市場の過熱はさめるという認識＋ニューディール政策

【5】1987年米国の「Black Monday」
⇒デジタル情報革命の落とし穴＝一斉売却の認識＋ヘッジファンドの歯止

【6】1980年代後半日本の資産バブル
⇒日本の経済力の過信の認識＋不良債権処理手法の確立

【7】米国発サブプライムローン/原油価格バブル
⇒「金融単独資本主義」弊害の認識＋新産業革命創出機運の始まり

3．産業革命を担った人々

～時代を創るのは企業か個人か？～

社会発展の歴史におけるﾃｸﾉﾛｼﾞｰの役割

テクノロジー　新しい社会を創る　社会

（規範）　（プレイヤー）

【産業革命】

兵器・農機技術	→	封建社会
（土地）		（領主と領民）
動力機関 物質科学	→	工業社会
（モノ）		（資本家と労働者）
情報技術：IT	→	情報社会 （ネットワーク社会）
（情報）		（生産者と消費者）

第一次産業革命　～動力革命～

●産業革命の幕開けとなる技術革新：
・最初にイギリスにおける綿工業
・イギリス*東インド会社*：最初の航海は、1601年3月、4隻の船団が東南アジアへ派遣
・17世紀後半以後：*インド産の綿織物を輸入*し吸湿性・耐久性からイギリス上流階級の間でブームとなり、イギリスの伝統工芸毛織物業者は衰退。
・綿織物：機械化が容易で、また毛織物工業のような規制がなかったために多くの発明がなされ、18世紀後半には毛織物を抜いて中心的繊維産業へ。

●重要な繊維産業における発明を列挙すると以下のようなものがある（18世紀）
・*ジョン・ケイによる「飛び杼」（とびひ）の発明*によって、一人の職人で高速に幅広の織布が可能となり、糸の生産がネックとなり、紡績機械が必要となる。
・紡績機械は、当時は、伝統的な手動式紡ぎ車で、紡錘は一つなので一人で一本の糸を紡ぐのが基本だったが、ジェームズ・ハーグリーブズによる*多軸紡績機の発明*。
・一人で同時に八本の糸を紡ぐことが可能となった*ジェニー紡績機の発明*
・リチャード・アークライトによる*水力紡績機の発明*
・サムエル・クロンプトンは、ジェニー紡績機とアークライトの水力紡績機の長所を組み合わせ*ミュール紡績機*を発明
⇒インド産の綿織物に匹敵する綿織物が生産できるようになった。
・糸が生産過剰となり織物機の改良が必要
⇒ *エドマンド・カートライトの力織機の発明*。

第一次産業革命　～動力革命～

●産業革命の進展から紡績機械や綿織物機械の原料となる製鉄業やエネルギー源となる蒸気機関の発達が喚起。

●産業革命前夜のイギリス：*製鉄に木炭が使用されていた*ため製鉄所は森林周辺。森林を伐採しすぎ16世紀から木材不足。

●石炭使用の製鉄：*エイブラハム・ダービー一世の石炭を燃料とする製鉄法*
ダービー二世のコークス燃料製鉄法の発明。
⇒燃料費の劇的低下による一般家庭でも木炭から石炭へのエネルギー転換

●炭坑問題：地下水排水のエネルギー源は、人力か馬力だけ。

●最初の蒸気機関：*トーマス・セーバリの鉱山用揚水ポンプ*。

●改良蒸気機関：*トーマス・ニューコメンの揚水用蒸気機関の発明*。
⇒南西部の石炭とスズの鉱山に、百機以上のニューコメン型蒸気機関を設置

第一次産業革命　～動力革命～

●*ジェームス・ワット*：スコットランドの機械職人の子、ロンドンで機械製造業を学ぶ。
⇒*グラスゴー大学構内で1757年実験器具製造・修理店を開業し産学連携の企業家へ*
⇒グラスゴー大学からの改良依頼で水を汲み上げるニューコメン型蒸気機関と出会い、高効率蒸気機関を作るため、熱力学の研究。
⇒二つのシリンダーを用いたワット式蒸気機関を考案し多くの特許を取得
⇒*ボールトン・ワット社を作りワット式蒸気機関の製造を開始*。
⇒蒸気機関の出力の単位として「ワット」という単位が作られた。
⇒ピストンの往復運動を回転運動に変える方法も考案。

●ロバート・フルトンによる蒸気船の改良による*1809年の蒸気船ビジネスの成功*

●ジョージ・スチーブンソンによる*1814年の蒸気機関車の実用実験の成功*

イギリスの綿工業から始まった産業革命は、水力から蒸気機関による「動力革命」を引き起こした。この「動力革命」の推進原理
⇒アイザック・ニュートン（1642年～1727年）：
・力学を確立し近代物理学の基礎を築き、微積分では数学にも大きな功績
・「動力革命」の推進原理としての「力学」は産業革命の基礎を与えた！

第二次産業革命　～ドイツの重化学工業革命～

●ドイツで起こった重工業：　第二次産業革命の主役を演ずる
イギリスで起こった産業革命から、石炭の有用性が起源

●ルール地方にある豊富な石炭を利用した製鉄を中心にした工業
⇒原材料の鉄鉱石や製品としての鋼鉄の輸送には、ライン川があり立地条件が良好

●1870年プロイセン王国のドイツ連合軍が、普仏戦争でフランスに勝利
⇒統一ドイツが実現し十分な経済圏を獲得したことが英国と並ぶ工業国へと発展

●ドイツ帝国時代：　帝国主義国家として列強を代表する、軍備の拡張
⇒バルト海沿岸の造船所では英国海軍並みの海軍力のための軍艦の整備
⇒ルール工業地帯：製鉄所と兵器工場を持つクルップ社を中心とする*軍事産業が発展*
⇒*1886年のゴットリーブ・ダイムラーの四輪自動車とカール・ベンツの三輪自動車の発明*

●ドイツでの産業革命＝重化学工業革命を担った企業家＝アルフレート・クルップ
⇒クルップ社の紋章は鉄道車輪を表し、ドイツ統一後、軍事産業へ進出。

重工業革命の推進原理：　材料物性や化学変化を制御するための「物質科学」。
⇒背景として、十九世紀後半から二十世紀の前半に、量子力学で有名なハイゼンベルクや触媒作用・化学平衡・反応速度で有名なオストヴァルトなど多くの優れた物理学者や化学者がドイツから出現。

第二次産業革命　～アメリカの重化学工業革命～

●動力革命：　ヨーロッパ先進地域とアメリカへと拡大。特に、広大な土地と資源のあるアメリカでは、革新的で企業家精神溢れる人々が自由に活動できた。

●ヘンリー・フォード：　二度自動車会社の経営失敗。三度目の会社が1903年から現在。
⇒再起可能なアメリカ社会の典型例

*●フォード社では、A型から製品化を行い1908年のT型で、初めて、大量生産時代*の自動車製造方式と全米規模でのアフターサービス体制を確立。
⇒現代自動車産業の出発点。
⇒T型フォードで確立した技術＝部品の規格化、均質化、互換性、流れ作業方式、
⇒1913年のベルトコンベア型組み立てラインなどの整備である。
⇒1920年までに百万台の生産を行い、全米の半分に。

●ヘンリー・フォードが企業家として賞賛に値するのは、労働力不足と賃金上昇をコストダウンで吸収し続け、従業員が自社の車を買えるように賃金を引き上げ続けたこと。

このドイツで起こり、アメリカで確立した、重化学工業革命の一連の流れは、「物質科学」を推進原理とする第二次産業革命である。そして、そこには、アルフレート・クルップ、ゴットリーブ・ダイムラー、カール・ベンツ、ヘンリー・フォードなどの産業革命の担い手となる、企業家の人間力が原動力となっている。

第三次産業革命　～デジタル情報革命～

●「デジタル情報革命の推進原理」は？　*「数理科学」である！*
⇒デジタル情報革命の産物は、「情報」であって、直接的に「物質の生成」や「物体の移動」を伴わない。
⇒MITメディアラボのニコラス・ネグロポンテ所長：「アトムからビットへ」と表現。
⇒直接的に物理現象・化学現象を引き起こすことが価値を産むのではなく、「情報の処理」と「情報の伝達」を行うことが価値を産む。

●「数理科学」は、あらゆる物理現象・化学現象に独立であり、特定の現象に依存せず、数学と数学を応用した学問の総称で、狭義の数理科学は、数学と応用数学を指すが、広義の数理科学は物理学、経済学など数学を利用する学問全般に及ぶ。

●数理科学の元となった数学とは？：　量、構造、変化、空間といったものを対象として、いくつかの仮定から始めて、決められた演繹的推論（一部数学的帰納法）を進めることで得られる定理のみからなる体系を研究する学問。
⇒数理科学は、数学の応用分野を含んだ「実学」。

「数理科学」による「科学」の再構築
デジタル情報革命の推進原理は、対象が「情報」であるため、ハードウェアとしての「ムーアの法則」に代表されるマイクロエレクトロニクスデバイスとこれを相互接続するインターネットであり、その上に存在するソフトウェアとしての「数理科学」である。

第三次産業革命　～デジタル情報革命～

数理科学の後半部の「科学」とは？（その1）

●科学とは？　広義には、体系化された知識や経験の総称で、自然科学、社会科学、人文科学の総称であるとされる。また、一般に、科学的方法に基づく学問体系。

●科学史を概観すると、人類は大昔から、自然現象や人体の構造について関心。

●古代に形成された学問体系のなかでも後世に大きな影響力を与えたのは、古代ギリシアと古代ローマの自然哲学。

●中世に形成されたのは、イスラム科学が最も進んでいた。

●中世ヨーロッパは、かなり遅れていて、イスラム諸国から科学技術を輸入。

●古代から中世にかけての科学は、論理と実証よりも古典論重視。

●実験的手法の登場は、17世紀のヨーロッパ（ガリレオ・ガリレイが天体望遠鏡を自作して宇宙を客観的に眺めた）から。

●科学的方法に基づく学問としての科学は、帰納法が確立してから。

第三次産業革命　～デジタル情報革命～

数理科学の後半部の「科学」とは？（その2）

●帰納法以降、科学的方法が次第に形成され、以下の四つの学問に分類する。

①物理学や化学など再現性の確実な実験という手段を用いた無生物を対象

②天文学や地球物理学など実験ではなく観測という手段を用いた無生物を対象

③医学、薬学、心理学など再現性の保証されない実験という手段を用いた生物を対象

④経済学や社会学などのように複雑系を対象

●このような四つの分類において、①は、再現性があり決定論的

●②から④へいくにつれて因果関係の不確実性が増大

●再現性の保証されている決定論的科学でも、物理法則を記述する微分方程式が偏微分方程式になると、解析的に解くのは困難な場合が多い

第三次産業革命　～デジタル情報革命～

数理科学の後半部の「科学」とは？（その3）

●偏微分方程式になると解析的に解くのは困難な場合が多かったが、「コンピュータ」の登場で、数値計算による解法が威力を発揮

●因果関係の不確実性が増大するほど、数値計算に加えた、コンピュータによる統計論的な手法が効力を発揮することが多く、「数理科学」の対象として有効

⇒コンピュータの役割は数値計算だけではなく、データ処理による各種パラメータ間の相関関係を統計処理によって算出

●②～④の範疇の非決定論的な学問を「数理科学」の対象として新たな「科学」としての可能性を拓いた。

●インターネットの登場は、社会的センサーネットワークを提供することで、②から④の学問分野に大きな活路を拓いた。

デジタル情報革命＝「コンピュータ」と「インターネット」の登場で進展し、「数理科学」が推進原理となっている。
「数理科学」は、非決定論的学問から科学の対象への構造変化をもたらした。

パソコンの発明者と非発明者

【発明者】

ビル・ゲイツ

スティーブ・ジョブス

スティーブ・ウォズニアック

アラン・ケイ

ゲーリー・キルドール

ミッチ・ケーパー

個人はパソコンを考える！

時代を創るのは「企業家」と「学者」である！

【非発明者】

メインフレーム・コンピュータ・ベンダー

主力企業はパソコンなど考えない！

インターネットの発明者と非発明者

【発明者】

ポール・バラン

ビント・サーフ/ボブ・カーン

村井純

ティム・バーナーズ・リー

マーク・アンドリーセン

ジェリー・ヤン

ラリー・ページ/セルゲイ・ブリン

個人はネットを考える！

時代を創るのは「企業家」と「学者」である！

【非発明者】

通信キャリア

主力企業はネットなど考えない！

4. 新しい産業革命のために

～経済危機からの脱却へ向けて～

産業革命史が塗り替えられようとしている

「デジタル情報革命」から「環境エネルギー革命」へ

・1780～1830： イギリス　紡績機械(水力)
・1830～1880： イギリス　鉄道(蒸気機関)

原理：力学
⇒動力機関

・19世紀末 ： ドイツ　重工業(電動機、鉄鋼)
・1913～1970代： アメリカ　T型フォード(1913)からの製造業革命
⇒大量生産、自動車産業、石油の時代

原理：物質科学⇒重化学工業

・20世紀末～： アメリカ　ディジタル情報革命

膨大な電力消費社会へ！

原理：数理科学⇒情報産業

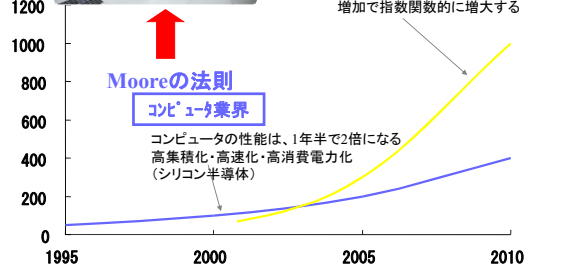
・21世紀初～：日本　環境エネルギー革命⇒独自技術による国際競争力

原理：宇宙/物性物理学⇒環境エネルギー産業

今世紀から始まる新たな産業革命＝環境エネルギー革命！

Mooreの法則とMoriの法則？情報社会は何をもたらすか？

データセンターが膨大な発熱源に！



Gordon.E.Moore氏もMoriの法則に感心

Moriの法則が脚光を浴びたのは、2007年10月総務省の森清審議官(当時)が北米を訪問し日本におけるブロードバンド・トラフィックの経験法則が注目されたことに起因し、欧米からブロードバンド先進国であることが再認識された。

2008年5月1日ハワイ島Keck天文台にて

情報社会ではデータセンターが膨大な電力を消費

米国Accentureは2008年6月26日、「データセンターの消費電力に関する予測リポート」を発表し。同リポートは、「米国環境保護庁（EPA）が2007年8月に発表した米国内のデータセンターの消費電力に関する調査リポートを、大筋で支持する」。

これはAccentureがカリフォルニア州サンタクララで開催された「Data Center Energy Summit 2008」で明らかにした。同レポートは、最新技術を導入した複数の大規模データセンターの協力を得て、18カ月間以上に渡り電力に関するデータ収集を行い、17件の事例研究を基に調査／分析／予測。

EPAのリポートでは、2006年におけるデータセンターの電力消費量は600億kWhで、米国全体の電力消費量の1.5%を占めたと記されている。そのうち、連邦政府機関のデータセンターの電力消費量は、約60億kWhだった。

現状のままでは、2011年の消費電力量は、現在の約2倍となる1,000億kWhに達すると予想され、この電力需要に対応するためには、新たに10基の発電所を建設する必要があると報告。

経済産業省グリーンITプロジェクト

現在： IT機器 5％（全電力消費）⇒50%（2050年）：経済産業省

＊大半はデータセンター需要

サーバー・ストレージ・ルータ・ディスプレイの省エネだけで50%削減は可能か？

政府の推進する「科学技術創造立国」を思い出す

1995年： 科学技術基本法の制定

第一期（1996年～2000年度） 第二期（2001～2005） 第三期（2006～2010年度）

総合科学技術会議＝基本計画の策定と実行に責任

政府の推進する「科学技術創造立国」を思い出す

具体的な重点指向分野としては以下の四つ

珍しく当たっている政府方針！

①ライフサイエンス
遺伝子の研究などをはじめとした、生命そのものを科学する分野
→病気の予防・治療や食料問題の解決

②情報通信
インターネットなどで情報をやりとりする技術やロボット開発など
→高度情報通信社会の構築、情報・ハイテク産業の拡大

③環境
地球温暖化対策やリサイクルシステム、クリーンエネルギーの開発など
→人の健康、生活環境の保全、人類の生存基盤の維持

④ナノテクノロジー・材料
ナノメートル（10億分の1）単位でモノをつくったり操作する技術
→幅広い分野に波及し、商品化技術の発展につながる

日本近代史からの新産業資本主義の必然性

●明治維新とは？： 江戸幕府⇒明治政府（薩長閥の尊王国家）
封建社会⇒農工業社会（半近代市民社会）
鎖国⇒開国⇒軍国
農耕⇒富国強兵（官主導の産業革命）

●戦後日本とは？： 尊王国家⇒立憲民主制
農工社会⇒工業社会（近代市民社会）
軍国⇒開国
官主導の産業革命⇒継続中なれど息切れ気味

●21C日本とは？：途上国⇒先進国（「金融単独資本主義」の崩壊）
科学技術創造立国とは「改良技術」立国⇒「発明・発見」立国

出発点となる4つのこと

①「科学者と技術者」には、自然発生的に「好奇心と探究心」が芽生え、とんでもない「発見と発明」をしてしまうことがある。

②とんでもない「発見と発明」が「生活習慣と商習慣」を変え、「制度と法律」を根本的に変える。

③このような「社会の部分的変化」をもたらす、一連の「発見と発明」を「技術革新」と呼ぶ。

④さらに一連の「技術革新」を「企業家」が新たな産業を興すことでもたらされる「社会の構造変化」を「産業革命」と呼ぶ。

4つの大切なこと

①「科学者と技術者」に「発明と発見」の機会を作る

②「発見と発明」に応じた「生活習慣と商習慣」＋「制度と法律」の発明

③「産業革命」に挑戦する「企業家」の存在

④「産業革命」を成功へ導く「ビジネススクール」の存在

デジタル情報革命から環境エネルギー革命へ

ご清聴ありがとうございました

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Given the unique nature of the software business, the faculty of Carnegie Mellon University's Silicon Valley campus concluded that mid-career software professionals would be better served by a tailored master's degree in software management than by a typical MBA. Our software management program integrates business, technical, and soft skills to prepare our students for technical leadership in their current companies or in entrepreneurial ventures. We originally launched the program building on the strengths of Carnegie Mellon's world-class software engineering education and the Software Engineering Institute; we targeted students working for large companies who were engaged in large-scale enterprise software projects, employing "high ceremony" software development processes. We discovered, however, that the majority of our students came from Silicon Valley companies which shared a product development focus, engaged in smaller projects, favored agile development processes, and measured development cycles in weeks rather than years; many students had entrepreneurial ambitions. Our program has evolved to align with these interests. It employs a unique team-based and project-based pedagogy which emphasizes practical skills over theory, depth over breadth, and coaching over lecturing. Faculty enthusiasm, support from the university administration, and most importantly high student satisfaction and growing enrollment provide significant support for our curriculum decisions and have led us to make this program the educational centerpiece of Carnegie Mellon's Silicon Valley campus.

U.S. business schools are experiencing a significant surge in MBA applications [1]. However, at the same time, business educators are questioning the MBA curriculum and its delivery, perhaps as never before [2]. Criticisms leveled at the typical MBA curriculum include the lack of practical relevance of much of what is taught, the lack of education in soft skills, and the lack of opportunities to practice leadership. There is also a realization that more pedagogical innovation is needed, in particular, more opportunities for experiential learning should be provided, perhaps supervised by a "clinical faculty" of successful business practitioners.

Beginning in 2003, faculty of Carnegie Mellon's Silicon Valley campus -- then engaged primarily in graduate education in software engineering -- undertook an review of the appropriateness of MBA education for mid-career software professionals, and arrived at perhaps a more extreme conclusion than the Harvard Business School Report [2]: Because of the uniqueness of software development and indeed of the software business per se, a new master's program custom tailored to educating software managers would better suit their unique career advancement needs, providing a more specialized and technical alternative to an MBA. In reaching this conclusion, we considered aspects of the software business, including:

- Products/systems are complex yet intangible
- The range of application areas is immense
- Products are built by teams of highly educated professionals (As in other engineering disciplines, the most highly educated and perhaps the brightest people are typically the producers not the managers)

- Managers need significant level of technical competence to make informed decisions and to command the respect of their employees
- The industry has a history of poorly eliciting and analyzing requirements, resulting products that don't satisfy customer needs
- Product development tends to focus narrowly on software rather than on complete solutions to customers' problems
- Project estimation is not widely understood nor well implemented
- The progress of projects is difficult to track
- Productivity is difficult to measure
- Product quality is often low (and although they complain, customers have learned tolerate this)
- There is no consensus on the "best" development process for a given project
- There are few economies of scale (and component reuse remains elusive)
- Globally distributed teams are becoming the norm (at least for large projects)
- The implications of new trends, such as open source software, are poorly understood
- The underlying technologies are changing rapidly and continuously.

In particular, we saw the need for a shared body of knowledge between software engineers and software managers, enabling the latter to understand, and thus to effectively plan and manage the work of the former. We believed this common core to be technical: requirements engineering, software architecture, and project/program metrics. Managers would also receive specialized education in strategic, program, process, and people management, while software engineers (at least those educated in our program) would receive specialized education in the construction, testing, and deployment of software systems. Thus we saw a software management program as a natural outgrowth of our highly regarded software engineering program.

Our initial strategy was to play to the strengths of Carnegie Mellon's software engineering education, focusing on "the development of business-critical, network-centric, software-intensive systems of systems (employing commercial off-the-shelf components, outsourcing, and internal development) requiring predictability and quality in their development and operation." Such systems are typically developed by companies employing relatively "high ceremony" development processes and measuring their organizational capabilities via the Capability-Maturity Models of Carnegie Mellon's Software Engineering Institute [3].

Not surprisingly, our initial partners in launching this degree program were large companies, especially aerospace and defense companies. Their technical management, who have typically risen through the ranks of the engineering organization, valued an approach to management education grounded in software engineering principles that would provide an evolutionary educational experience for their mid-career technical employees. There was also a bit of an anti-MBA bias among technical managers, and at least one large company would only provide tuition assistance for employees continuing their technical educations; our software management program was considered to be sufficiently technical to merit their support.

From the beginning, however, only about 1/3 of our students came from such companies. The remainder came primarily from Silicon Valley companies possessing quite a different world view. These companies, and thus their employees, are product focused, generally engage in smaller projects, favor agile development methodologies over high-ceremony processes, and measure development cycles in weeks instead of years. During the first few years of the program, we experienced a significant tension between the needs of these two constituencies. Enrollment trends resolved this tension. The number of Silicon Valley professionals enrolling in our program increased, while the enrollment of aerospace and defense professionals decreased. To meet the needs of our students, our program has evolved to feature a strong product development focus, agile development within short development cycles, and entrepreneurship. During this evolution, we have retained the dual emphasis on business and technical skills. And over time, the tension is diminishing; in fact, our students from

aerospace, defense, and other large companies increasingly share these interests as well and have established a history of taking agile development ideas back to their large projects.

Although our program has evolved, the overarching educational mission has remained invariant: *to provide a transformative educational experience for our students*:

- During the course of our program, students are equipped with a broad range of knowledge and skills -- both business and technical -- directly relevant to their professional practice, and they gain facility at applying these skills to real-world problems
- Students' decision-making processes significantly improve; they learn principled decision-making frameworks and how to instantiate such frameworks logically
- Students learn to express their ideas clearly and persuasively, and they become able to negotiate effectively and with authority
- Students become adept at working effectively in teams, including virtual teams (perhaps the key skill in modern software development of any scale)
- Students become reflective practitioners and effective self-directed learners, both of which are essential in a field in which some estimate the typical half-life of knowledge at approximately two years
- They become technical leaders, meriting the respect of both their subordinates and superiors.

The Software Management Curriculum

The Software Management master's program is a two-year, part-time program featuring flexible delivery to accommodate the working professional's busy schedule. Thirty to forty percent of the students are remote; many of these are employees of aerospace and defense companies. Local students are drawn in small numbers from a large range of Silicon Valley companies, including IBM, Hewlett-Packard, Oracle, Google, Microsoft, Sun Microsystems, Cisco, BEA, Lockheed-Martin, and others including entrepreneurial ventures. To encourage a strong sense of community, all students, whether remote or local, are required to come to campus for a three-day orientation, a mid-program event, and graduation.

The current curriculum comprises six semesters of project-based courses, each providing key practical knowledge and skills, as well as new opportunities for experiential learning. All courses, with the possible exception of summer electives, are taken one at a time, thus dividing each semester into two intensive "mini semesters." Students have a one week break between "minis" and a longer break between semesters.

	First Year	**Second Year**
Fall	Elements of Software Management Metrics for Software Managers	Software Product Definition Software Product Strategy
Spring	Managing Internal Development Managing Software Professionals	Requirements Analysis The Business of Software
Summer	Electives (1-2 including, Managing Outsourced Development Avoiding Software Project Failures Open Source Software Human-Computer Interaction Software Architecture)	Electives (1-2 including Innovation and Entrepreneurship Entrepreneurial Finance Product Management Corporate Strategy Practicum Project)

We believe that each course in our curriculum offers just enough theory coupled with ample opportunities to apply the practical knowledge and skills acquired. In designing the curriculum, we have made a conscious decision to emphasize depth and application, rather than breadth, cf. [4]. We are also aware that, given different individual learning objectives and different project experiences,

different students will cover various topics in more or less depth, focusing on those areas in which they most need or want to gain mastery; this seems appropriate for a professional master's program.

At this point, it is worth describing the required courses and a few key electives to highlight key curriculum decisions.

The first course, *Elements of Software Management*, is designed to take our typically very technical students out of their comfort zone to begin the transition to thinking about software as a business. Each student is assigned a public company. During the course, the student learns to apply standard frameworks for strategic market analysis, for analyzing business strategies and execution processes, and for analyzing financial statements, all in the context of his or her assigned company. The course concludes with a presentation of the student's analysis, accompanied by a two-year prognosis for the company (which the student is encouraged to revisit at the end of the program).

After the first course, which calls primarily for individual work, learning take place in the context of Story-Centered Curricula [5]. Working primarily in teams, students act as employees of a fictional company engaged in a range of projects. Within this framework, and with support from faculty members, students confront realistic technical and business problems, including conflicting requirements, unclear product and business strategies, limited resources, and challenges of team leadership.

The second course, *Metrics for Software Managers*, equips students with a range of tools to answer the question "how are we doing?" at both project and program levels. In realistic scenarios, students learn a range of traditional and agile metrics for tracking progress, productivity, quality, and cost; how to analyze metrics data; and how to report them up and down the organization. They also learn how such data provides a sound basis for improving estimation. Finally, they learn how to roll out a metrics initiative and change management strategies to maximize its chances of success.

The third course, *Project and Program Management*, provides in-depth knowledge of software development methodologies and their application to projects with particular characteristics. In the beginning of the course, students research a range of component software development processes (such as project management, requirements analysis, architecture and design, construction, testing, and deployment) to learn how each is typically implemented in the contexts of traditional and agile development methodologies; the result is a student-authored "encyclopedia" of software development processes which the students go on to apply in tailoring a development methodology for a project which is not optimally served by either a traditional or agile approach. Finally, students must respond to a number of classic management challenges as the project "runs" in simulation.

The fourth course, *Managing Software Professionals*, equips students, who often lack significant people management experience, with the knowledge and skills to hire appropriately, to provide a work environment which attracts and retains top performers, to evaluate performance, and to deal with situations in which workers must be laid off or fired. During this course, they practice a number of key skills via simulation.

The first summer's electives provide a range of management and technical alternatives. Two merit brief discussion: *Avoiding Software Project Failures* is a case study course in which students analyze the causes significant real-world project failures and explore how such failures might be avoided. *Managing Outsourced Development* revisits the focal project from *Project and Process Management*, and students have the comparative experience of outsourcing the project and then managing the outsourcing relationship via simulation.

The first four courses of the second year collectively provide perhaps the most uniquely valuable educational experience of the program, especially for our many students interested in product

management and entrepreneurial ventures. While completing these courses, students progress from the germ of a faculty-supplied idea for a software product to a well-researched plan for building a software product business.

The first course, *Software Product Definition*, guides students to apply proven methods of requirements elicitation to understand problems faced by potential users and business stakeholders of a product, and the key characteristics of desirable solutions. This understanding feeds into an analysis and high-level design process via which they develop a compelling, realistic vision of how a proposed software system and accompanying "whole product components" in the form of complementary systems, services, and technology will address the problems, resulting in a product that customers will value. Their work is documented in a product vision document. (This course provides the first part of a thorough education in product requirements intended to reduce, if not eliminate, the high incidence of requirements-based project failures which plague the industry.)

The second course, *Software Product Strategy*, guides students to move the product idea forward by analyzing the macro environment, the company's capabilities, market opportunities, competition, and related factors, culminating in recommendations regarding whether and how to proceed with product development. These are summarized in a "high stakes" presentation to faculty posing as management of the simulated company considering the project which culminates in a go/no go recommendation and asks for management buy-in.

The third course, *Requirements Analysis*, guides students to analyze and document functional and nonfunctional requirements for the product. They also define a product roadmap, embodying a strategy for developing and releasing new functionality in coherent increments. And they define an approach to managing requirements over the life of the project. (We consider the pair of courses, *Software Product Definition* and *Requirements Analysis*, to provide the key technical skills for Software Management students, given strong evidence that most software project failures can be traced back to requirements problems [6].)

The fourth course, *The Business of Software*, concludes the product development sequence by guiding students to formulate a business model for the software product and to develop revenue and cost estimates. After assessing the viability of the project, students make a final presentation in which they recommend if and how the company should proceed.

After completing this sequence, the majority of students complete their studies by taking the *Innovation and Entrepreneurship* elective, in which they self-organize into teams to develop, plan, and "pitch" their own ideas for technology start-ups to the faculty and often to Silicon Valley venture capitalists. In parallel, most take *Entrepreneurial Finance*, which deals with financing options for start-ups, and many take the capstone course in *Product Management* as well. Alternatively, some students opt for a *Practicum Project* in which a team applies their knowledge and skills to an actual industrial project, coached by a faculty member.

In addition to the primary subject matter of the courses, several "threads" are woven into the curriculum, providing regular opportunities to practice soft skills such as:

- teamwork, including virtual teamwork and the use of collaboration tools
- written communication
- presentation
- negotiation
- principled decision making
- self awareness and reflection.

Interestingly, in our surveys of alumni, many count these skills among the most valuable things they learned in the program.

Results

To date, 104 students have graduated from the Software Management program, and 66 are currently enrolled. Our enrollment target for Fall 2009 is 40-50 new students.

For the past two years, we have surveyed of alumni of all Carnegie Mellon Silicon Valley programs to ascertain the career value they attribute to their graduate education:

- 92% believe that their Carnegie Mellon Silicon Valley education has given them a competitive advantage relative to their professional peers
- Virtually all students have seen salary increases, and 45% have seen increases greater than 20%
- 65% were promoted during the program or after graduating.

(No comparison data for other programs are available.)
As noted earlier, most students have tended to value soft skills, such as teamwork and effective communication, more than business or technical skills in hindsight. Proficiency in business and technical skills is assumed of graduates from top schools; facility in soft skills is a key differentiator -- and one that is sometimes sorely lacking in graduates of traditional programs.

Pluses and Minuses of the Master's Degree in Software Management

Pluses

- The curriculum is tailored to the needs of mid-career software professionals. It provides a mix of business, technical and soft skills that address the career advancement needs of our students in the context of the special characteristics of the software business
- The program teaches, and students have ample opportunity to practice using, knowledge and skills of high practical utility to software managers, product managers, and entrepreneurs.
- Carnegie Mellon is arguably the world's top university for software engineering research and education, giving our degree instant recognition and high credibility
- Our innovative pedagogy and heavy emphasis on team-based projects are appreciated by both students and employers.
- The "high-touch" nature of the program results in strong and enduring student/faculty relationships.

Minuses

- Being a new degree, the master's in software management is not as well understood by recruiters as an MBA; many management job postings default to listing an MBA as a key qualification
- Given our decision to include many technical subjects in the curriculum, many valuable business subjects are not adequately addressed
- Marketing. While our students experience the "voice of the customer" in *Software Product Definition* and perform competitive market analysis in *Software Product Strategy*, they are not exposed to the full breadth of marketing activities
- Accounting. While our students gain experience reading and analyzing financial statements in *Elements of Software Management*, they receive no formal instruction in accounting
- Corporate finance. While our students can take an elective in *Entrepreneurial Finance*, it focuses on funding options for new ventures, and they are not exposed to the full breadth of corporate finance
- Leadership. Although we read and discuss articles and books on leadership throughout the program, students have no opportunities to practice leadership above the team level.
- The high-touch nature of the program requires a higher teaching commitment from faculty which can cause faculty burnout.

On the balance, we believe that the master's in software management provides an excellent alternative to an MBA for mid-career software professionals. Faculty enthusiasm, support from the university

administration, and most importantly high student satisfaction and growing enrollment provide significant support this belief and have led us to make this program the educational centerpiece of Carnegie Mellon's Silicon Valley campus.

Acknowledgments

I'd like to thank my faculty colleagues, past and present -- especially Lynn Carter, Patricia Collins, Stuart Evans, Martin Griss, Gladys Mercier, Jim Morris, Martin Radley, and Tony Wasserman -- for freely sharing their ideas and encouragement.

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An MBA Alternative for Mid-Career Software Professionals

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The software business is unique

- Products are complex yet intangible
- The range of application areas is immense
- Managers need significant technical competence to manage *and lead* the workforce
- The industry has a history of poorly understanding requirements
- Estimation is poor, and progress is difficult to track
- Too often, quality is low
- Globally distributed teams have become the norm
- Implications of new trends are poorly understood.

Applications to U.S. MBA programs are up, but …

Faculty are questioning the MBA like never before:
- The relevance of what is taught
- Lack of education in soft skills
- Lack of opportunities to practice leadership

and…

There is a realization that more pedagogical innovation is needed:
- Increased opportunities for experiential learning
- A "clinical faculty" who have "been there and done it."

Our vision has evolved

- Originally: Play to CMU's traditional strength in software engineering
  - developing large systems via "high ceremony" processes (and employing CMM)

  But only 1/3 of our students did such work (e.g., aerospace and defense projects), and this has trended down over time.
- Now: Focus on "The Silicon Valley Way"
  - a product development focus
  - smaller projects
  - agile development
  - development cycles measured in weeks, not years
  - entrepreneurship.

CMU Silicon Valley's faculty assessed the MBA and concluded

- It is not optimal for software professionals
- A more specialized and more technical alternative would better suit their career advancement needs
  - By providing a shared body of knowledge between engineers and managers
    - The common core is technical: requirements, software architecture, and metrics
    - Management education focuses on strategic, product, program, process, and people management, all situated in a software business context.

Students learn by doing

- They learn in the context of realistic project work
- They produce authentic work products
- Team-based work is the norm
- Faculty coach rather than lecturing
- Students are evaluated on what they produce
- A wide range of knowledge and skills is integrated.

The Software Management Curriculum

	First Year	Second Year
Fall	Elements of Software Management	SW Product Definition
	Metrics for Software Managers	Requirements Analysis
Spring	Project and Process Management	Software Product Strategy
	Managing Software Professionals	The Business of Software
Summer	Electives (1 or 2) Managing Outsourced Dev. Avoiding SW Project Failures Open Source SW Human-Computer Interaction SW Architecture	Electives (1 or 2) Innovation & Entrepreneurship Entrepreneurial Finance Product Management Corporate Strategy Practicum Project

Project and Process Management

Learning Objectives:
- Select and customize SW development methodologies
- Define measurement, analysis, and reporting approaches
- Identify risks
- Use agile and traditional frameworks for planning
- Develop and deliver effective presentations.

Tasks:
- Analyze component SW development processes
- Recommend and customize a development methodology
- Address project management challenges.

Elements of Software Management

Learning Objectives:
- To analyze markets
- To analyze business strategies and execution
- To analyze financial data
- To work as a team to identify issues and make collaborative decisions.

Tasks:
- Characterize a software company's business
- Analyze its markets and strategy
- Analyze its finances
- Make a two-year prognosis for the company.

Managing Software Professionals

Learning Objectives:
- Create a job description
- Interview effectively
- Define a performance evaluation process
- Devise a "good" work environment
- Handle issues, including performance problems, firings, and layoffs.

Tasks:
- Devise and execute a hiring process
- Devise a "good" work environment
- Handle a range of "people issues."

Metrics for Software Managers

Learning Objectives:
- Design metrics to answer business questions
- Apply the GQM model
- Define, collect, and analyze project- and portfolio-level metrics
- Assess standard metrics and devise new ones
- Address human implications of metrics.

Tasks
- Develop a learning plan with metrics using GQM
- Define project-level metrics
- Define portfolio-level metrics with rollout and change management plans.

Software Product Definition

Learning Objectives:
- Apply Contextual Design techniques to understand stakeholder needs
- Perform persona- and scenario-based design
- Derive high-level requirements
- Define the "whole product"
- Formulate a business vision
- Write clear, compelling product development artifacts.

Task:
- Develop a comprehensive product vision document
  - Identify and analyze stakeholder problems
  - Develop a compelling, realistic product vision
  - Package the vision in a form to support management decision making

Software Product Strategy

Learning Objectives:
- Make business and technical decisions regarding a new product
- Analyze market factors
- Estimate and evaluate markets
- Reach decisions given time and resource constraints.

Tasks:
- Review and elaborate a product vision
- Analyze the potential markets for the product
- Propose a delivery model and strategic positioning of the product; recommend whether to proceed.

Threads running through the curriculum emphasize soft skills

- Teamwork, including virtual teamwork and using collaboration tools
- Team leadership
- Written communication
- Presentation
- Negotiation
- Principled decision making
- Self-awareness and reflection.

Alumni count these among the most valuable things they learned.

Requirements Analysis

Learning Objectives:
- Analyze and document functional and non-functional requirements
- Identify risks
- Define requirements management processes and select tools
- Develop a product roadmap
- Write clear requirements documents.

Tasks:
- Validate a product vision then analyze and document requirements
- Define a requirements management approach and recommend tools
- Develop and present a product roadmap.

Curricular Materials

- Significant effort has gone into developing course materials (and our overall curriculum)
- Available on a course website to provide
  - The big picture of the course
  - Task assignments
  - Plans of attack
  - Tips and traps from experienced practitioners
  - Readings and other learning resources
  - Checklists for submitted work
- Not eLearning, per se; secondary to interaction with faculty *and each other*.

The Business of Software

Learning Objectives:
- Make business and technical decisions regarding a product business
- Develop revenue models for products and services
- Estimate budgets for software businesses
- Assess the viability of a business.

Tasks:
- Conduct a feasibility analysis for a proposed SW product
- Develop a revenue model
- Develop a budget (and align with revenues)
- Recommend if and how to proceed with the product.

Teaching Roles

- Course supervisor
- Subject-matter expert
- Content developer/adapter/maintainer
- Role player
- Team coach
- Team advisor and individual mentor
- Feedback provider/grader.

Nearly all work is done in teams

- Teamwork is the norm for software projects
- It enables students to complete a realistic project with authentic deliverables
- Teamwork is highly motivating
- Virtual teamwork is a key soft skill focus
  - 30-40% of students are remote
  - Local students often participate remotely
  - Most (of my) coaching is via virtual meetings
  - Students use a range of tools to support virtual collaboration (e.g., wikis, virtual meeting software, document repositories, GoogleDocs, web cams, conference calls).

Minuses of the program

- The degree is not as well understood by employers as the MBA
- Many valuable business subjects are not adequately addressed
  - e.g., marketing, accounting, corporate finance, *leadership*
- High-touch teaching requires a big faculty commitment.

Student Assessment

- "Limited mastery" approach (students receive feedback and are allowed one revision)
- The task checklist is the grading rubric.
- Individual grades are assigned at the end of each course
- Components of final grade
  - Team deliverables (80-90%)
  - Individual work
    - Assigned components of team's work
    - Individual "briefings"
    - Ad hoc assignments
    - Peer reviews
    - Coach's assessment.

Outcomes of the program

- To date, 104 have graduated, and 66 are enrolled; our target for 2009 is 40-50 new students.

We conduct a yearly survey of alumni:

- 92% believe their CM Silicon Valley education has given them a competitive advantage
- Virtually all have received salary increases; 45% of those were greater than 20%
- 65% were promoted during the program or after immediately graduation.

(Sorry, no comparison data are available.)

Pluses of the program

- Tailored to the needs of mid-career software professionals
- Innovative pedagogy and team-based projects teach "knowledge to be used"
- Provides ample opportunities to practice using knowledge and skills
- High-touch teaching builds strong and enduring student-faculty relationships
- CMU's reputation in software engineering provides recognition and credibility.

Optional Slides

About my sponsor: Carnegie Mellon Silicon Valley

- Education programs began in 2002 (research in 2001)
- Three professional MS programs
  - Software Engineering Technical Track
  - Software Engineering Development Management Track
  - Software Management Program
- 330 MS graduates as of August 2008
- Prepares software professionals for leadership roles
- Draws from the CMU Pittsburgh programs but evolved to meet needs of Silicon Valley
- Six semesters of project-based courses within a simulated environment (with an optional "real-world" practicum.

Plan of Attack (Getting Help)

Plan of Attack

Having a clear vision of how a software product brings value to your customer is an essential first step in its design and development. However, software developers often jump to a design solution before they truly understand the customers' problems with current approaches (which can be solved by the new software product) and before they understand the "whole product" required to provide a comprehensive solution.

In the particular case of THOVIS, although travelers, drivers, and transportation services will be the primary users, there may be other stakeholders and influencers of its success. This task aims to help your team understand the value that THOVIS will bring to its users and related organizations through analysis of their problems and the development of a clear vision of how their lives and society will be improved through the use of THOVIS -- and eventually how NDSS can build a business around this product.

Task Objectives:

The purposes of this task are to: 1) characterize our intended users and any other key stakeholders, 2) identify their most painful problems, 3) infer corresponding root causes, 4) clearly identify the product 's key features that will address each, and 5) define the whole product which is required to provide a comprehensive solution.

One Overarching Deliverable: A Product Vision Document

- Problem Identification:
  - A short statement of the principal real problems that THOVIS will help solve. This statement should set the context for understanding the value that users and others will realize. It should be derived from interview data, analyzed via work models which document breakdowns in the current ways that our users perform tasks of this sort and the tools that they use to make complex decisions and solve problems; these work models and an affinity diagram identifying key issues should be submitted as supporting documentation for your vision document.
- Product Vision:

...

Example Curricular Material

Tips and Traps (Getting Help)

Notes: Tips, Traps, and Other Useful Information

- The most important objective in this task is to gain a clear vision of how our proposed product will provide value to its "primary users" and other stakeholders. To clarify our company's terminology:
  - Stakeholder: Anyone who benefits from or is impacted (directly or indirectly) by the system
  - Customer: A targeted company
  - Decision Maker: Person who makes the purchasing decision at a customer.
  - User: Anyone using the system. Different customers will have different types of users, so you must envision how each user will use the product and the value that the product can provide to each. (A primary user is a user -- typically a frequent user -- whose way of working will be significantly impacted by use of the product.)
  - Personas: Clearly defined prototypical users. They may be an amalgamation of actual users, but they are specifically described.
- This task has a lot of reading on Contextual Design. While each student should do all of the reading, consider having team members specialize and take responsibility for learning more deeply about key aspects of the process (e.g., interviewing, work modeling, creating affinity diagrams, visioning)

Users and Decision-Makers

- After brainstorming all the different types of users, identify a small number of user types that you think are most important (those who will use the system the most, gain the most value from using the system, or will be most impacted by the system); this is your "persona hypothesis" to use Cooper's term. Focus your analysis on these 'primary' users.

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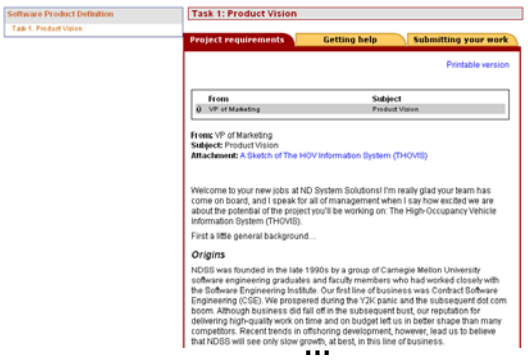
Task Assignment



Readings and Resources (Getting Help)

Readings and Resources

To learn about Web 2.0 see:

- What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software

To learn about the "requirements problem" see:

- Chapters 1-3 (skim)
  Software Requirements, 2nd Edition
  Karl E. Wiegers
  Microsoft Press 2003
  ISBN 0-7356-1879-8
- And see Scott Ambler's somewhat different view, expressed in http://www.ddj.com/architect/196902703?cid=Ambysoft

To learn about a broad segmentation of users/customers see:

- Chapter 1 (read)
  Crossing the Chasm (revised edition)
  Geoffrey A. Moore
  Harper Business, 1999
  ISBN 0-06662-002-3

To learn about interviewing users and stakeholders see:

- Chapters 3-4 (Skim 3; read 4)
  Rapid Contextual Design
  Karen Holtzblatt, Jessamyn Burns, Wendall and Shelly Wood
  Elsevier (Morgan Kaufmann) 2005
  ISBN 0-12-354051-8

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Submitting Your Work

Task 1 Checklist for Vision Document

1. Did the team identify all significant users and other stakeholders for the Knowledge Edge?
2. Did the team interview at least three potential users?
3. Did the team produce affinity notes and a sequence model for each interview to document user-specific work practices and problems? Did the team consolidate these appropriately to document general work practices and problems?
4. Did the team identify key user types and define a persona for each of these?
5. Did the team use personas, goals, and scenarios as an aid to deriving and documenting high-level requirements?
6. Did the team identify the general categories of problems that would motivate the adoption of the Knowledge Edge?
7. Did the team define the whole product?
8. Is the initial discussion of problems in the Product Vision Document, independent of proposed solutions?
9. Did the team describe specifically how the product will provide value to each identified stakeholder?
10. Did the team propose a business model for this product?

...

Teaching Style Options

- ~~Lectures followed by problem solving (the traditional model)~~
- Problem solving followed by contextualized lectures
- Cognitive apprenticeship
  - Modeling
  - Scaffolding
  - Fading
  - Reflection
- "Socratic" questioning
- Peer teaching

As students "evolve," different styles may be most appropriate (e.g., modeling ⇨ questioning ⇨ contextualized lectures)

Slides on teaching

Other CMU Silicon Valley Curricula

Teaching Contexts

- Weekly reading discussion seminars
  - roles: course supervisor, subject-matter expert, role player
- Team meetings
  - roles: team coach, team advisor, role player, peer teacher
- Individual meetings
  - roles: subject-matter expert, mentor

The SE Technical Curriculum

	First Year	Second Year
Fall	Foundations of Software Engineering	Metrics for Software Engineers
		Avoiding Software Project Failures
Spring	Requirements Engineering	Construction
Summer	Architecture	Practicum (or Electives)

The SE Development Management Curriculum

	First Year	Second Year
Fall	Foundations of Software Engineering	Elements of Software Management
		Metrics for Software Managers
Spring	Requirements Engineering	Project and Process Management
		Managing Software Professionals
Summer	Architecture	Electives (or Practicum)

LEARNING OUTCOMES AND EXPERIENCES FOR A BUSINESS INFORMATION SYSTEMS CURRICULUM: RETROSPECTIVE AND FORWARD REFLECTIONS

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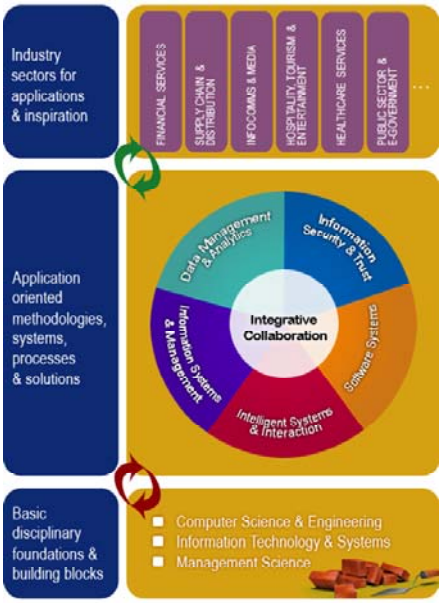
Keywords: Information Systems curriculum design, IS education, Business IT curriculum and education, Internet era education, Learning Experiences and Outcomes for IT education

II. The Setting of our Business Information Systems Curriculum

The SIS Context: A School of Information Systems, within SMU, a Management Oriented University

The SIS Model



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Learning outcomes & experiences for our professionally oriented educational programmes (Bachelors, Masters)

At the Bachelors level:

- BSc (IS Management)
- Pioneer Intake August 2003

At the Masters level:

- Master of IT in Business, MITB (Financial Services)
- Pioneer intake, August 2007

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Description:

The Singapore Management University, established by the government of Singapore in the year 2000, currently has an enrollment of just over 6000 undergraduates, nearly 400 post-graduate students, and 265 full-time faculty (As of January 2009). It is a “boutique university,” with six separate schools (Business, Accountancy, Economics, Law, Social Science, and Information Systems). During its first few years, when the only three schools were Business, Accountancy and Economics, the university was sometimes characterized “as a large business school. However, with the addition of a School Information Systems with strength in IS technology as well as IS management, as well as a School of Science and a School of Law, we now think of the university as being a major research and educational institution unified by the central them of being “about the world of business, organizations and markets.” Each of the six schools pursues its mission of gaining international repute for excellence education in ways that take advantage of the university’s close links with “the real-world.”

Our School of Information Systems (SIS) was established in 2003 to extend the reach of the university into the technology, applications and management aspects of Information Systems. In contrast to most Information Systems programmes housed within Business Schools, SMU SIS has strong technology capability. In four of the five areas within the school (Information Security & Trust, Data Management & Analytics, Software Systems, and Intelligent Systems & Interaction), the research faculty did their PhD work in Computer Science or in an of Engineering closely related to IT, and continue to publish in computer science and related IT technology, systems, and application oriented venues. The research faculty from one area within the School (Information Systems & Management) did their PhD work in a Business School (or in a joint Business-Technology programme), and continue to publish in IS Management and related management oriented venues. We

strongly encourage interaction, co-authoring and joint publishing across all five of our areas. We also have had a number of instances where faculty within one of our IS Technology areas has jointly published with faculty within our IS Management area.

SMU has two tracks for faculty: Tenure-Track (academic research as first priority, with the need for balanced excellence in teaching) and Practice-Track (Teaching and pedagogy as first priority, with the curriculum content being closely aligned with current and emerging real-world and professional needs through close interactions and joint projects with industry and professional organizations.) Approximately 30 percent of the university's full-time faculty are practice track (including Practice Assistant, Practice Associate, and Practice Full Professors, as well as lecturers). SIS currently has 35 full-time faculty, and 40 percent are practice track.

Many of the curriculum innovations in our professionally-oriented Bachelors and Masters programme are driven and executed by our practice-track faculty. Practice-track faculty often assist research-track faculty with obtaining real-world datasets, and other real-world access and exposure that enables academic researchers to more easily "inform" their research with real-world knowledge. Research and Practice track faculty sometimes co-publish. Research oriented faculty are also required to be knowledgeable about current and emerging industry practice and incorporate this into their teaching as well (though to different degrees for our professionally-oriented undergraduate and masters teaching versus our research-oriented Ph.D. teaching.)

Business Information Systems curriculum examples and experiences discussed in the remainder of the paper are drawn from our two professionally oriented programmes: the undergraduate BSc (Information Systems Management), and the post-graduate Master of IT in Business (Financial Services).

III. Various Attempts at Defining Learning Outcomes for our Undergraduate Programme

3.1 Starting Points for Designing the Programme Blueprint

Objectives of our Bachelors educational programme, BSc (IS Management) (from 2003 blueprint thru 2008 revision)

1. Produce graduates who are entry level "Business IT Professionals", who can
2. Work for EITHER end-user business organisations, OR for IT services/solution provider organisations
3. Work at the complex interface of IT & Business, OR on "either side of the line"
4. Achieve a competency level of at least "Somewhat Developed" across all eight of the BSc (ISM) Learning Outcomes (Levels I, II and III)
   - Achieve a competency level of at least "Developed" for *Learning-to-Learn* skills across all of the curriculum's Learning Outcomes
5. Develop and retain a lifelong curiosity and passion for leveraging IT in business and organisational settings
   - for productivity, transformation, value creation, strategy enhancement, entrepreneurship

School of Information Systems SMU

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Sounds Great!

But what does this really mean?

How we define the appropriate skills, competencies and learning outcomes?

And how do we clearly identify and design the supporting learning experiences?

School of Information Systems SMU

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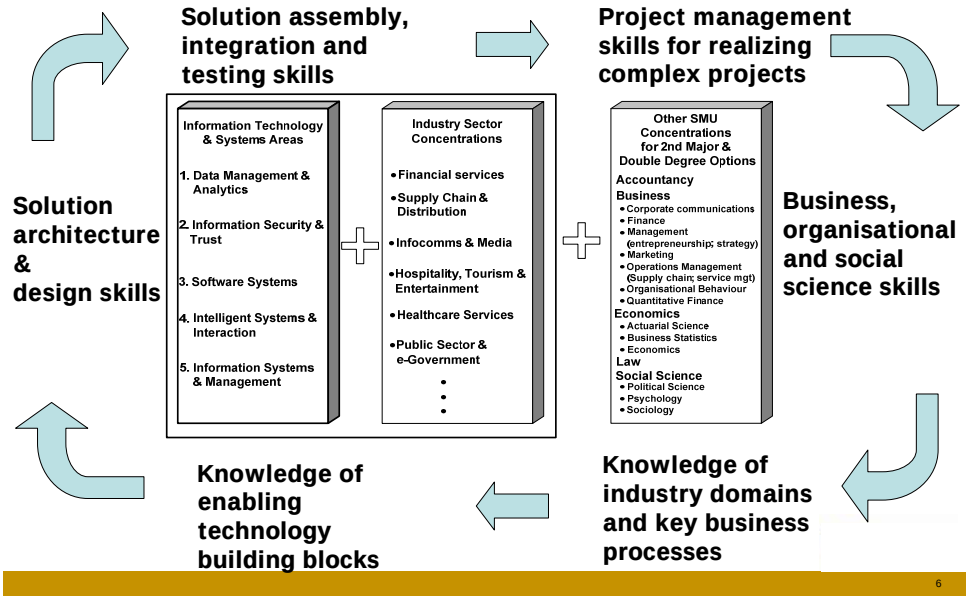
Our Starting Points, #1): The SIS Three Pillars Model, with high level skills & knowledge (from 2003 Blueprint, with revisions)



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Our Starting Points, #2): The SIS Learning Outcomes Framework for our BSc (ISM)

(from 2003 Blueprint, with 2006 Revision)

1. Integration of business & technology in a sector context
2. IT architecture, design and development skills
3. Project management skills
4. Learning-to-earn skills
5. Collaboration skills
6. Change management skills for enterprise system
7. Skills for working across countries, cultures and borders
8. Communication skills

School of Information Systems

BSc (ISM) Learning Outcomes Web Site

SMU Singapore Management University

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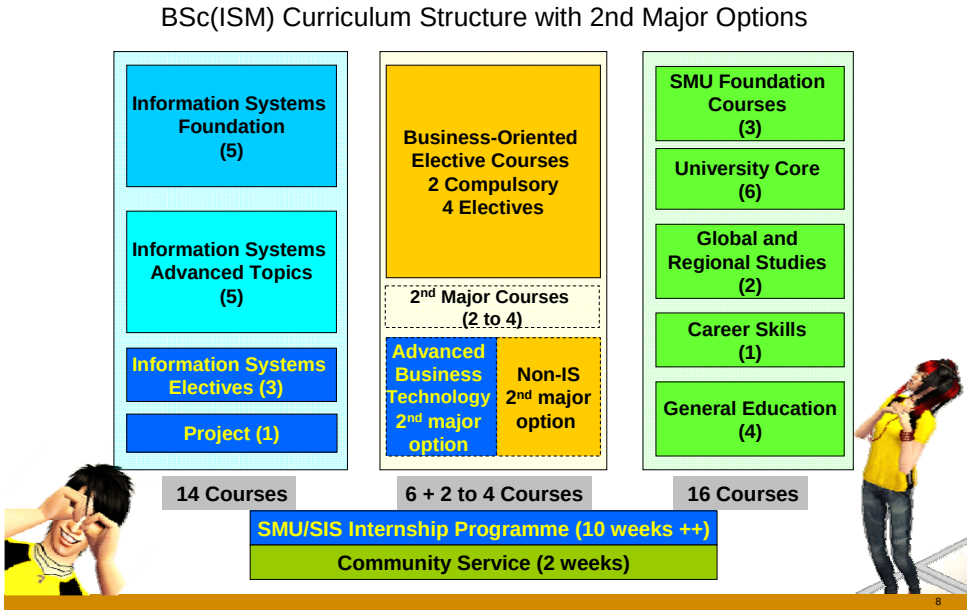
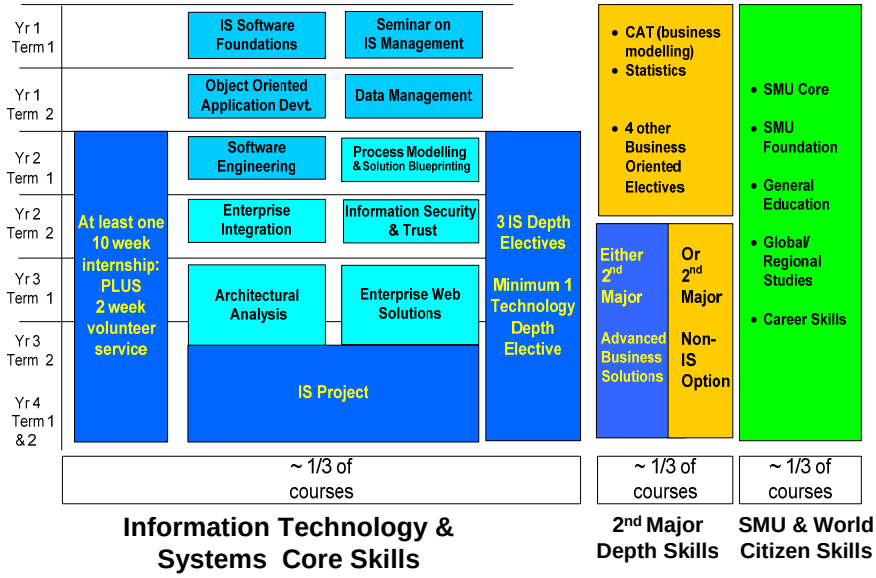
Our Starting Points, #3) The BSc (ISM) curriculum model overview (from 2003 Blueprint thru 2008 Revision)



Our BSc (ISM) curriculum model, highlighting the specific IS courses (from 2003 Blueprint thru 2008 Revision)

Info technology and systems, 2nd major and SMU core/foundation courses are taken in parallel



Description:

The design blueprint for the undergraduate programme is laid out in slides 4 through 9, starting with a statement of objectives, onward through a the curriculum map of our courses across the four year bachelors programme (which can actually be completed in 3 ½ years, and even 3 years if one does

enough summer school sessions).

Our original curriculum blueprint was drafted in 2003. The global societal and business landscape was already being reshaped by the wide-spread diffusion of the internet, declining unit cost of increasing amounts of bandwidth, e-business, web-based delivery, the world-wide-web, search engines, enterprise application packages, distributed computing, improving integration technologies for enterprise data and applications, wireless communications, and mobility of data and telephony access.

Even the business and management practices of IT outsourcing, globally-distributed teams for doing everything from application design and development, to application maintenance, to call centre support, and even the more sophisticated types of business and knowledge process outsourcing were already prevalent, and clearly expanding. Business users as well as IT solution and service providers were already (painfully) knowledgable of the complexities of managing IT enabled business and process transformation projects.

It was a fertile time to draft a “clean-slate” curriculum for a School of Information Systems preparing students to become Business IT professionals, ready to leverage and deploy IT solutions across the “world of business, organizations and markets.”

Taken up by the excitement of the times, we decided to construct our own curriculum blueprint, rather than adopt one the “approved’ undergraduate IT related curriculum blueprints of the two established academically oriented IT professional organizations: The Association of Information Systems recommend curriculum for a business school oriented Information Systems (or MIS) major within a business oriented bachelors education, or the ACM recommended curriculum for a computer science major within a science or engineering oriented bachelors education.

We chose to construct our own curriculum blueprint to give ourselves more flexibility to understand and align with an external world that was producing Infocomm related research, commercial tools, building block components, new applications, and integrated solutions at a rapid pace, and simultaneously assimilating and using these technologies (or at least trying to assimilate and use them) in conventional as well as innovative ways in every aspect of business and organizational life.

As part of our curriculum research we studied the structure of a variety of IT programmes at Carnegie Mellon: one undergraduate IS programme, and six professionally oriented masters programmes. We also formed a strategic partnership with Carnegie Mellon (still ongoing) that enabled us to consult extensively with a team of their faculty drawn from across their colleges of computer science, engineering, business, and public policy management. Through these consultations, we were able to compare and elaborate ideas for how to design and execute a “clean slate” IT programme within the SMU university context.

Our curriculum design was also strongly influenced by experience with professional practice in industry. For example, prior to embarking on this new programme at SMU SIS, I had spent my previous 13 years in industry working on IT applications design, as well as on using IT to enable process and operations improvement. Other practice professionals who joined our faculty during our early years, had externsive experience with spinning off start ups based on IT innovations, on applying IT and decision analytics to large scale supply chain operations, and with enterprise integration applications.

We explored ideas for how to create an educational experience centered around the design and use of IT solutions in the context of business scenarios. We wanted the curriculum to provide the educational content and skills required to justify, conceptualize, design, create and apply current and emerging IT applications in the context of industry-specific business

processes.

It was important for students to learn to consider business improvement and value creation needs from both a business and IT perspective, and also learn how to design and implement enabling IT applications making use of existing IT tools, building blocks, and application packages. We thought it was important for students to go through multiple cycles of “solution realization” in order to understand what is required to go from a business driven concept to a design influenced by both business needs and technology considerations. In under to understand IT solution design in a serious and more intuitive way, beyond diagrammes and “marketecture”, (marketing versions of simple architecture diagrammes, typically done up on beautiful Power Point slides), we decided it was essential for the students to continue through the cycle to the point of building and demonstrating simplified working implementations to experience first-hand the myriad of technology related and people related complexities and challenges that occur when one tries to actually deliver a working IT system. This would obviously require much more hands-on exposure to designing and implementing software applications than in a typical business-school oriented IS programme.

At the same time, we were very clear that we were not attempting to be a computer science programme. We decided not to address the formal and theoretical aspects of the science of computation and computability, nor would we go into any depth of knowledge or detail on what happens at the hardware and operating systems level “within the machine.” We acknowledged from the outset that graduates from our type of programme would not achieve the depth of capability in programming that would be normally expected of a graduate or a regular computer science or computer engineering programme. Similarly, our students would not be trained to analyze or construct mathematical formulations of complex logic or algorithms as a computer science student would be trained to do.

Rather, we wanted to focus on a different types and levels of complexity: those associated with demonstrating how information technology could be used within the business domain, and within the particular business process, to achieve the necessary types of performance improvement or service innovation. And, those associated with constructing, implementing and validating an appropriate design and working implementation for a solution in this setting.

Our “big picture” guiding concepts and buzz-words were expressed in terms like Business IT, Design, Solutions, Solutioning, and using IT as an enabler and lever to “change the way business does business.” Our students would therefore enter the workforce as entry level “Business IT Professionals”, and as “Agents of Business Change and Transformation.” And hopefully, more than a few would become entrepreneurs in the realms of IT enabled solutions or services, which seemed consistent with the overall orientation and spirit of the school.

But what is a “Business IT Professional?” Who would hire them? What role would these students actually play in an organization? How should they be educated? What type of skills and competencies would they really require?

Retrospective Reflections:

We had a reasonably clear sense of the type of professional, and the

Our first expression of the type of professional and the associated type of problem solving capabilities that we wanted to produce were visualized in our “Three Pillars Model.” The essential capabilities and knowledge we were targeting are shown around the perimeter of the pillars. They are also reflected in our Learning Outcomes. A full account of the development and use of our Learning Outcomes Framework and the supporting Learning Outcomes Management Systems (LOMS) over the 2003 through 2008 period is given in Ducrot, J; Miller, S; and Goodman, P; (2008).

What we did not fully appreciate or understand at that time were the realities and details of how to get our undergraduates, starting with first-year freshman, started at the very beginning of the path. And then, how to provide them with sure and stable footing and support as they ascended over the many bumps and step hills along early portions (year 1 and year 2) of the path.

The intended end of the path was clear in the minds of the few practice oriented SIS faculty members in Singapore working on the curriculum blueprint. We were getting highly supportive feedback on the curriculum concept and target outcomes from local industry IT professionals and business leaders. Also, the design and statement of outcomes made sense to the consulting team of Carnegie Mellon faculty (all with real-world experience acquired through teaching of post-graduate professional students, executive education, and numerous field research projects). But as one faculty members on the Singapore side later expressed it, “Many of the early stage students do not yet have the ‘mental velcro’ in the heads to catch and hold on to many of these sophisticated concepts about business processes and enterprise oriented applications.” Many of our early stage students were consumed with the unfamiliarity and challenges of Hello World scale introductory Java programming.

Referring to Slide 6, it was taking more time than we had originally anticipated for those students without any prior software design and programming experience to gain the initial basic competence with “enabling technology building blocks (e.g. Java, and programming basics). Yet, they had to do this before they could progress to the “higher level” tasks of solution architecture, detailed solution design, and solution realization through using a combination of available building blocks (which still required programming knowledge to understand, use and extend), as well as their own code to assemble, integrate and test solutions.

Given the overall SMU environment and curriculum, along with the SIS specific

curriculum experiences, the students caught on very quickly to project management skills. They seemed to naturally, even osmotically, pick up business and organizational skills without any special effort (other than doing their regular coursework outside of SIS, and doing a huge range of extracurricular activities and projects). Through internships and the nature of examples used in SMU and SIS courses, they quickly picked up on the various slices of industry specific business processes and domain knowledge they were exposed to.

Ironically, the one part of the circle of skills and capabilities illustrated in our Three Pillars Model that we most took for granted when we created the curriculum blueprint was the ability of students with no prior experience with software development to make the very first step of acquiring the introductory basic capability of creating and using the basic software code building blocks. Those students who entered the programme with previous software development caught on very quickly, of course. And eventually, even those without any prior experience eventually picked up the essential programming building block capability by the end of the second year. However, it was evident that we needed to make additions and adjustments to the curriculum to smooth the path during this intial phase of skill acquisition.

Had we started with a more conventional and established curriculum approach for an IT programme, we probably would have focused more of our initial curriculum design efforts on the more standard types of introductory programming courses. Yet, if we had taken that approach, I suspect our curriculum design effort would not have placed nearly as much effort on creating and refining the non-typical upper year core courses in our curriculum, which are the ones that really distinguish us from most other IS or Informatics programmes, and are also the courses which IT professionals and business leaders kept telling us were well aligned with the types of skills they wanted in their new generation of hires.

Also, these upper year courses were more integrative courses in the sense that the IT solutioning problems were more deeply embedded into business processes and scenarios, Once the students made it to these courses, they began to understand our vision of a Business IT Professional and the associated skills, problem solving abilities, and career possibilities. Also, past their first year, they were starting to see how these capabilities were proving useful in their internships, and eventually in job placement after graduating.

These upper year integrative courses, shown in Slide 9, are Information Security & Trust, Process Modeling & Solution Blueprinting (co-designed with Infosys), Enterprise Integration, Architectural Analysis, Enterprise Web Solutions (also done in collaboration with Infosys), the required IS Application Project. Over the past six years, we have also created a set of IS depth electives, some emphasizing IS technology and applications, and others emphasizing IS management.

After six years of getting the programme up and running, we continue to focus on 1) refining and deepening the content and experience of the assignments, labs and project, since this “learning-by-doing” is the essence of what the students get out of the courses 2) finding better ways of teaching the fundamentals of the technology so that students can more easily absorb the building block skills, and do so in way where they can more easily see the relevance of the technology capability to solving problems in the business domain, and 3) providing a better and more supportive experience for in the first year for those students who have never had software development experience prior to entering, 4) and related to this third item, continuing to work out ways of making the transition from the first year to the second year less of a “big jump” for those students who entered without prior software experience.

While the effort to on the first two items above has been time consuming, and has required a great deal of trial and error experimentation, it has progressed

very well. Interestingly enough, it is the third and fourth items which have proven to be more vexing and subtly complicated.

The experience of delivering the upper year courses and electives has exceeded our expectations in many ways, although a great deal of continuous improvement has indeed been required to achieve these results. For example, educators at other institutions we spoke to in our early years while we were just getting started were skeptical that we would be able to deliver courses on the analysis of large scale business processes (Process Modeling & Solution Blueprinting), on Enterprise Integration, or on Architectural Analysis to upper year undergraduates, and have them “get it.”

It turns out that we have been reasonably successful at doing this. A number of students who have graduated and who are working have returned to tell the faculty in these courses they see how the course experience has helped them a great deal in their professional work. Also, we see the results in the internships the SIS students are able to get, as well as the Application Projects they do, many of which end up being deployed within the real business setting of their “client” (which includes some of the world’s more prominent multinational firms, as well as small businesses and non-profit organizations).

Forward Reflections:

We continue to debate the following questions:

* Should there be more or less programming content in the courses? The ideal is that students would make increasing use of component level construction and assembly, and increasingly sophisticated construction tools which would take care of the complexities of “lower level programming” and which would students to create by “drag and drop” or by other graphically oriented or higher level logic oriented interfaces. The reality of course is that students need to know a certain set of programming basics to use many of the existing tools, to practically work with components, and to build basic web-based solutions.

* Should there be more theory and mathematics in the courses, along with more coverage of basic computer science concepts? Our research oriented faculty with PhD's in computer science often advocate this point of view. In some portions of some of our courses, it would be helpful to some extent. Yet, industry people we consult with (both from end user organizations and from solution and service provider organizations) do not place as much emphasis on this, and most of the students prefer to focus on understanding and using the technology in the context of applications. We continue to deal with the challenge of how to get the students to both appreciate and understand the need for abstraction and generality, and how to use these principles, without the content seeming theoretical or not tangible and relevant.

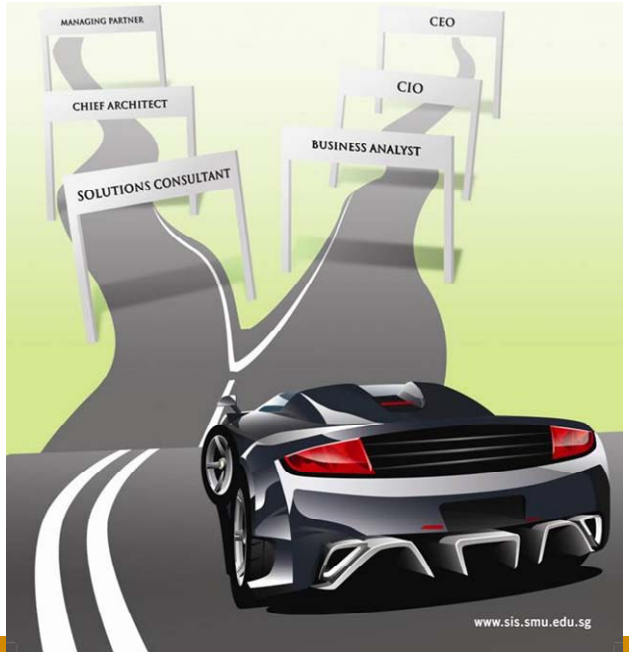
* How to provide richer context for examples, and richer ways of enabling the students to experience how the technology is used within the context of relevant business problems and processes. A challenge here is the large investment of faculty and staff time over a sustained period to create these enrichments. Another challenge are the practicalities of trying to do larger scale assignments and projects within the confines and constraints of a one semester course being taking in parallel with three or four other courses.

And of course, the biggest issue is anticipating how the use of IT in business settings will change over the years to come, and what this implies for our model of a Business IT professional. This is a moving target. Not even the people in industry have a clear sense of this, though they can provide examples of the recent changes and trends they see within their own organizations, and they can speculate on what they think this implies within their business context over the next few years. I would like to see our curriculum to continue incorporating changes and updates response to and in anticipation of changes of how IT solutions are being used and being created in the external world and to keep the content and learning-by-doing experiences aligned with these changes. Yet, ongoing change and experimentation creates some amount of uncertainty and destabilization, and

competes with a natural desire of faculty members to want to stabilize contents and iteratively and cautiously refine the material they have been working with previously.

3. 2. Expanded Ability to Working on Either Side of the Business IT Interface

The expanded ability to pursue Business IT or Regular Business Career Paths



School of Information Systems

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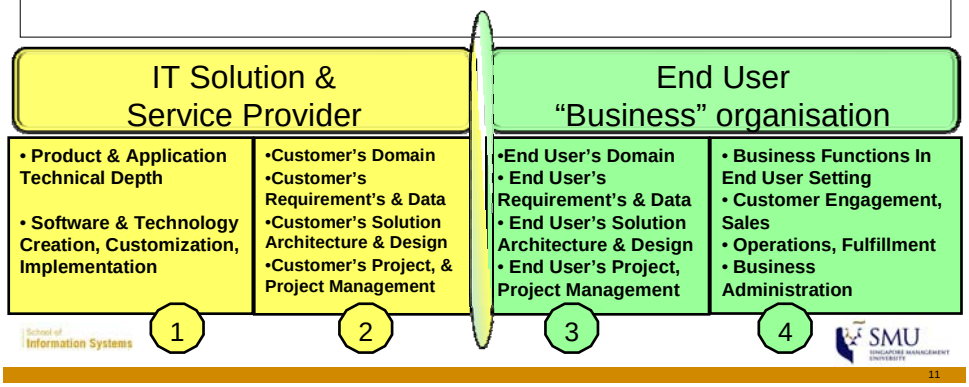
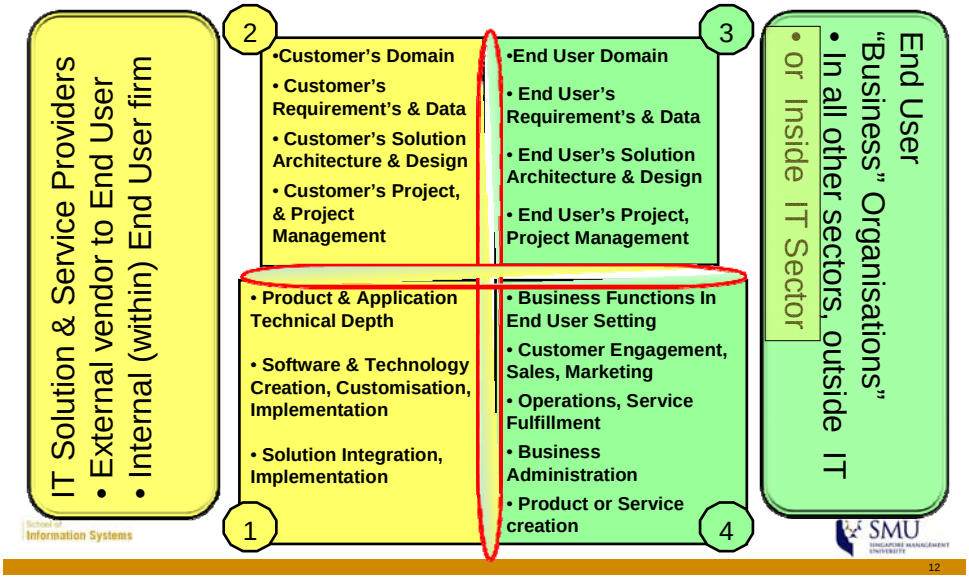
At the Business IT interface, or "on either side of the line" model (from 2004 onward)

1. Produce an entry level "Business IT Professional"
2. **Able to work for EITHER end-user organisations, OR for IT services/solution provider organisations**
3. **Able to work at the complex interface of Business & IT, OR on "either side of the line"**



At the Business IT interface, or "on either side of the line" model

(2006 onward, as we saw more data on internship, employment results)



Description:

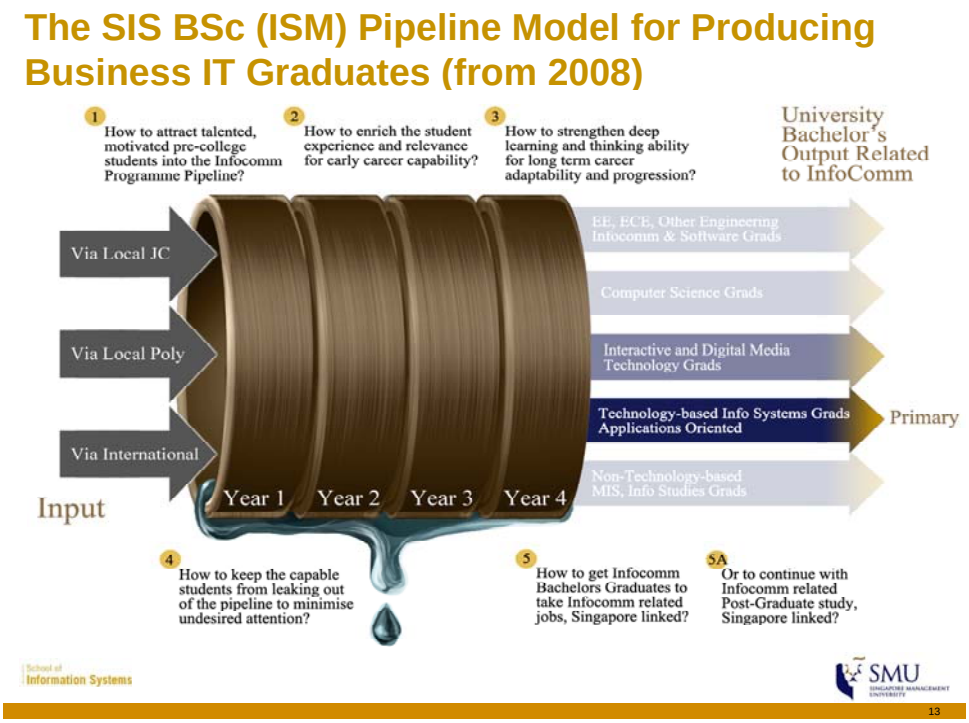
At one of our regular advisory and interaction sessions with industry professionals and leaders, one of the industry participants commented, "You know, your programme prepares students to be great Business Analysts."

This was a useful insight for us.

Retrospective Reflections:

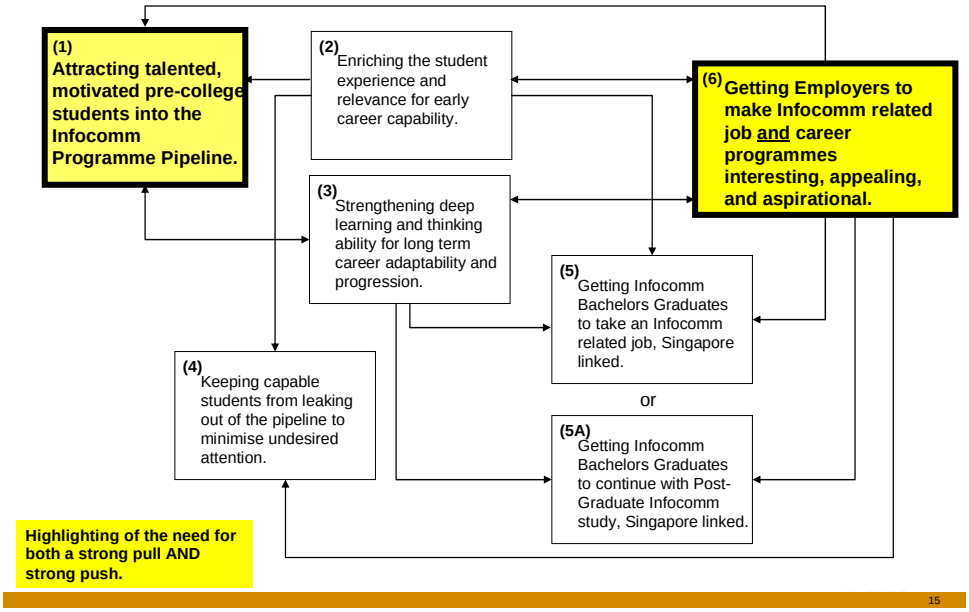
Forward Reflections:

3.3 Our Pipeline Model for Understanding the Interconnected Ecosystem for Producing Business IT Graduates



Pipeline Model Details on the Types of IT graduates produced by SIS (from 2008)

Our IT Manpower Production Pipeline Model as an Influence Diagram to Highlight Ecosystem Relationships (from 2008)



Description:

Retrospective Reflections:

Forward Reflections:

3.4 Emphasizing Business Relevant Competencies Especially Strengthened by IT Studies without Mentioning Technology

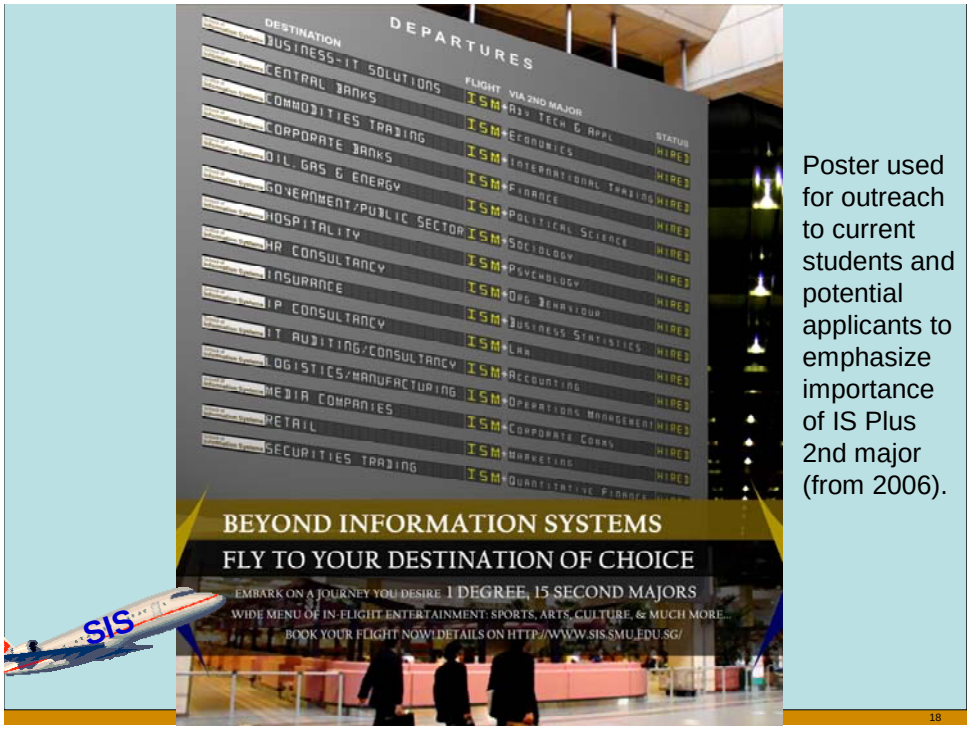
Description:

Retrospective Reflections:

Forward Reflections:

IV. Updates on New Learning Experiences in the Undergraduate Programme

4.1 ISM Second Majors across the University (outside of SIS)



Poster used for outreach to current students and potential applicants to emphasize importance of IS Plus 2nd major (from 2006).

Educating our students about 2nd Major options offered through other SMU schools and within SIS
(from 2008)

BSc (ISM) 2nd major website

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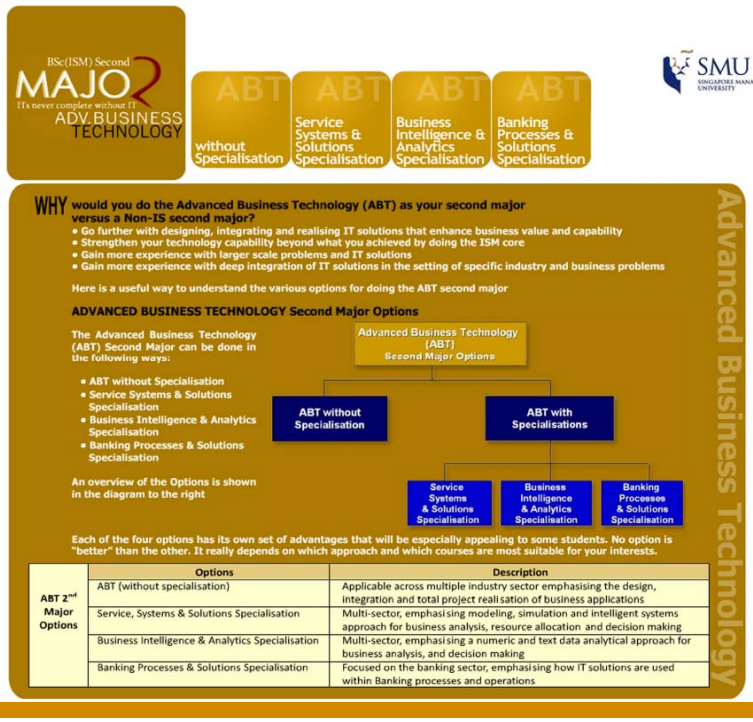
Description:

Retrospective Reflections:

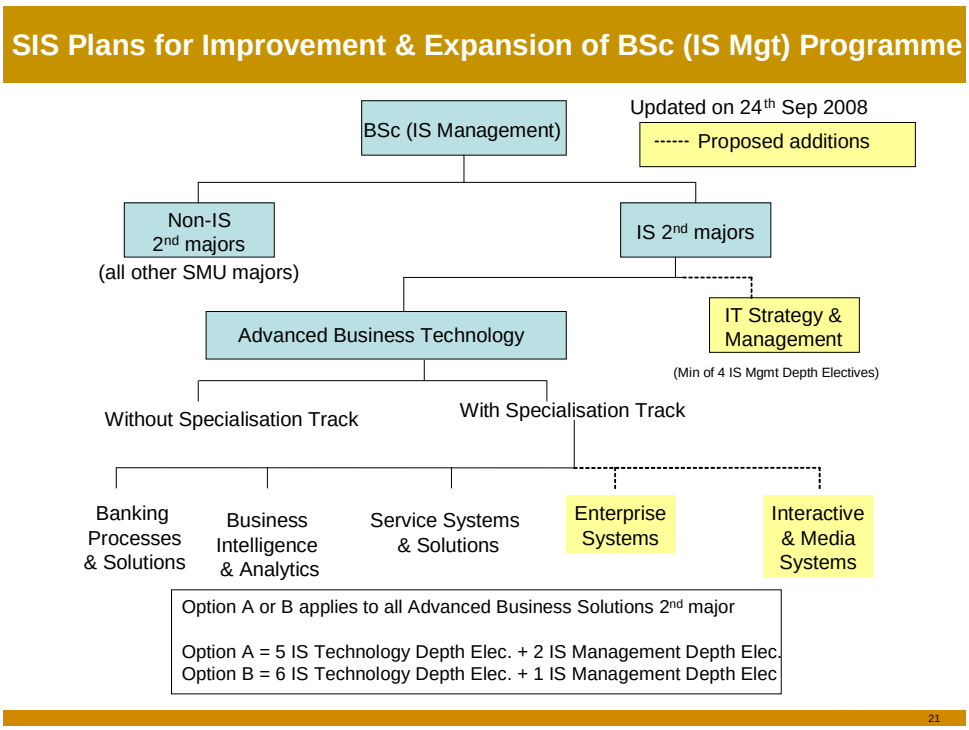
Forward Reflections:

4.2 Second Majors and Concentration Tracks within the School of Information Systems



ABT 2nd Major web site

(from 2008)



Description:

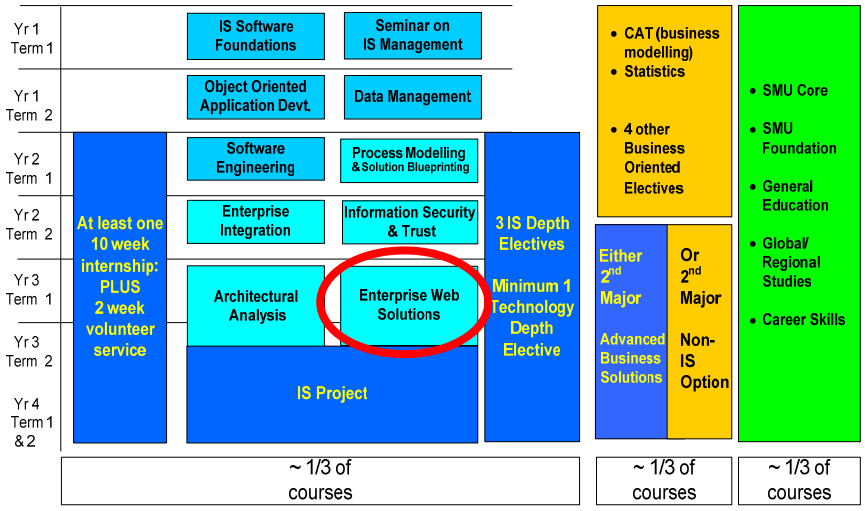
Retrospective Reflections:

Forward Reflections:

4.2 The New Core Course on Enterprise Web Solutions

Addition of a new required course, Enterprise Web Solutions (as of 2008 AY)

Info technology and systems, 2nd major and SMU core/foundation courses are taken in parallel



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Objectives for the Enterprise Web Solutions course (from 2008, with 2009 revision)

Upon successful completion of this course, a student will be able to:

1. Demonstrate the ability to design, build, and deploy a large scale multi-tier Web solution in the context of a business environment.
2. Use Portals to implement human interactions and workflow management across business processes.
3. Construct an end-to-end Web Solution by assembling, configuring and integrating existing building blocks, and complementing them with custom built components.
4. Identify the important deployment considerations when deploying multi-tier Web solutions.
5. Apply ASP.NET and Microsoft SharePoint to create enterprise Web solutions.

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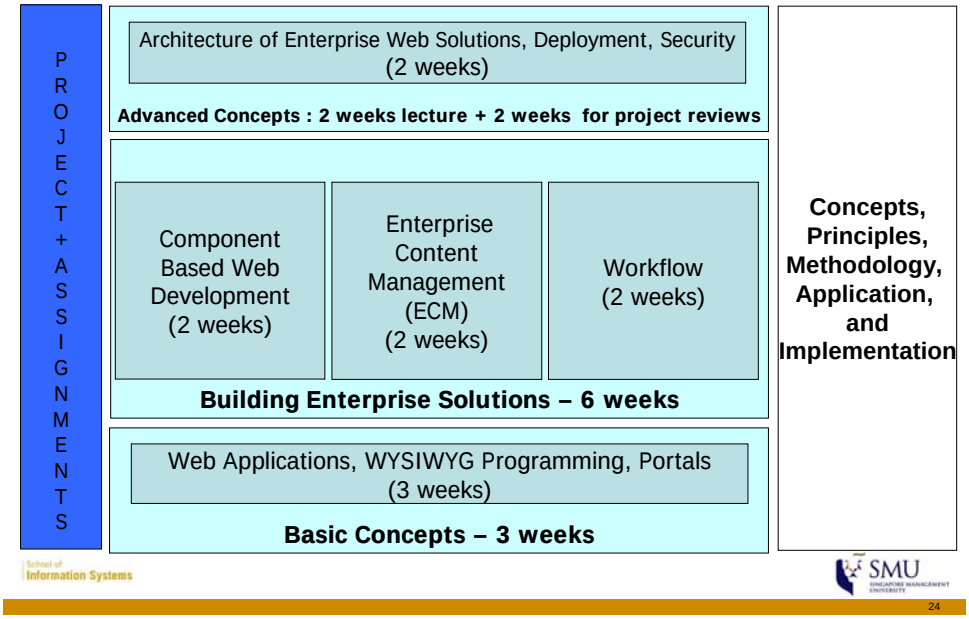
Structure of the Enterprise Web Solutions Course
(from 2008, with 2009 revision)



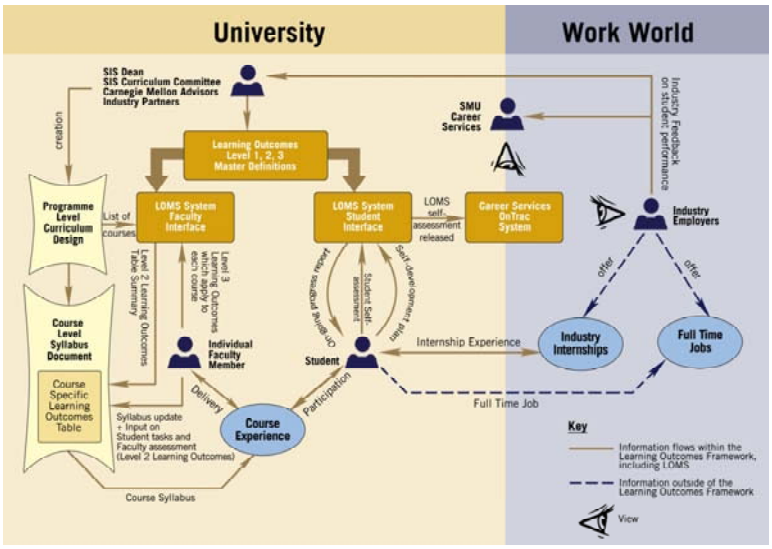
Description:

Retrospective Reflections:

Forward Reflections:

4.3 The Learning Outcomes Management Systems (LOMS) to Support the Learning Outcomes Framework

The SIS Learning Outcomes Framework and Enabling LOMS System for the BSc (ISM) Programme



Source: Ducrot, Joelle; Miller, Steven; and Goodman, Paul S. (2008). "Learning Outcomes for a Business Information Systems Undergraduate Program," *The Communications of the Association for Information Systems*: Vol. 23, Article 6. Available at: http://aisel.aisnet.org/cais/vol23/iss1/6

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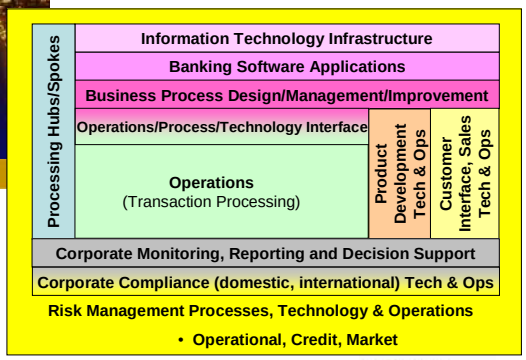
Description:

Retrospective Reflections:

Forward Reflections:

V. Defining Learning Outcomes for our Master of IT in Business (Financial Services) Programme

Our MITB (Financial Services): Flagship of our SMU SIS -Banking Industry Joint Initiative focused on grooming talent and leadership for Technology, Processes & Operations



Technology & Operations in Banking goes beyond the one (or "Ops & Tech"). It is pervasive within the enterprise, and also across the industry.

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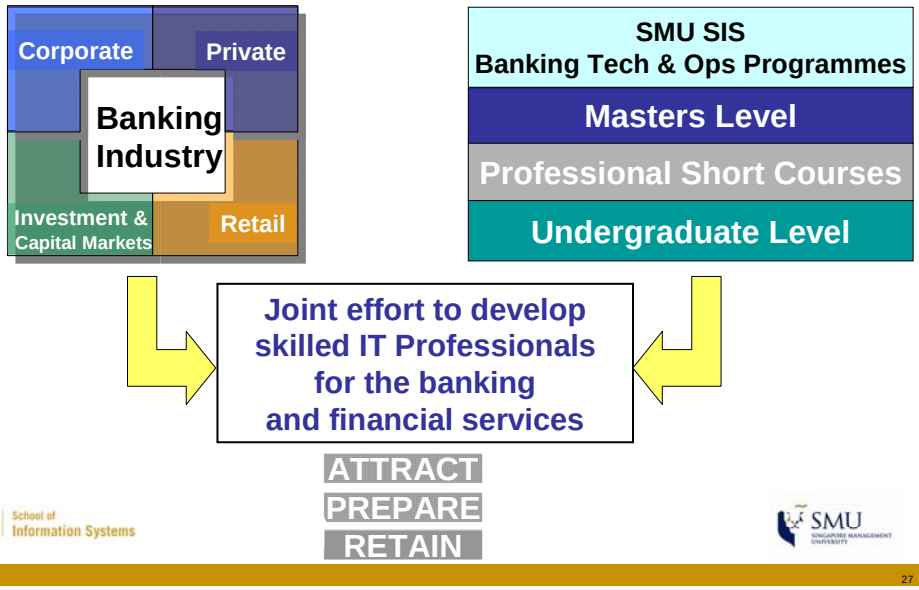
The SMU SIS - Banking Industry Joint Initiative to Develop Business IT Professionals Prepared for Banking Technology, Processes & Operations (initiated in 2006)



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Objectives for our Professional Masters programme, MITB (Financial Services) (from 2006, with revisions)

To enable IT professionals (already skilled in IT basics) to:

1. Understand the connections across banking products, processes, operations, IT solutions, and innovation strategy within each segment of banking.
2. Lead and manage technology, process, and operational change initiatives.
3. Fulfill the vital bridging roles across the overlapping boundaries of IT, Process Operations, Senior Management, and the Banking Lines of Business.
4. Work more effectively with the top level executives on the business aspects of process and technology change.
5. Become senior process consultants, solution architects and designers, and transformation project heads in banks and other financial institutions.
6. Move into senior management and executive positions within the Technology and Operations Group of Banking and Financial Services firms.

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Original Learning Outcomes for MITB (FS)
(from 2006/07)

1. Acquire in-depth sector domain knowledge
2. Ability to integrate business & technology in the sector
3. Acquire enterprise IT architecture and solutions expertise in the sector
4. Ability to define & implement Business IT processes, solutions & strategy
5. Ability to assess and manage Business IT risks
6. Acquire business IT and people management skills
7. Ability to manage projects and vendors
8. Skills for interacting with enterprise-wide business functions
9. Ability to interact with CxOs
10. Acquire learning-to-learn skills

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MITB (FS) Programme Curriculum

Announced 2007, with ongoing upgrading

1. **General Management – 3 courses**
   - 1.1 Accounting for Managers
   - 1.2 Strategy & Organisation
   - 1.3 Finance
2. **IT and Project Management – 4 courses**
   - 2.1 IT Governance and Innovation Management
   - 2.2 Spreadsheet Modelling for Business Decisions
   - 2.3 IT Project and Vendor Management
   - 2.4 Global Sourcing Management
3. **Banking Processes, Solutions & Technology – 4 courses**
   - 3.1 Banking Products and Processes
   - 3.2 Retail Banking Solutions & Architecture
   - 3.3 Corporate & Institutional Banking Solutions & Architecture
   - 3.4 Managing Operational Risks in Banking
4. **Project – equivalent to 2 courses**
   - 4.1a Project definition, development & critique workshops
   - 4.1b Industry Expert seminars & company site visits
   - 4.2 Project delivery (final term)

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Learning Outcomes	1.1 Accounting for Managers	1.2 Strategy and Organisation	1.3 Finance	2.1 IT Governance & Innovation	2.2 Spreadsheet Modelling for Business Decisions	2.3 IT Project & & Vendor	2.4 Global Sourcing & Management	3.1 Banking Products & Processes	3.2 Retail Banking Solutions & Architecture	3.3 Corporate & Institutional Banking Solutions & Architecture	3.4 Managing Operational Risks	4.1 Project
1. Understand banking products, fulfilment processes, and enabling systems in terms of the SMU Banking Process Framework								x	x	x	x	x
2. Ability to integrate business concerns with technology solutions in the banking sector					x			x	x	x	x	x
3. Understand the foundations of enterprise IT solutions and architecture across the different segments of banking								x	x	x	x	x
4. Ability to define & implement Business IT processes, solutions & strategy				x	x	x	x	x	x	x	x	x
5. Ability to assess and manage risks related to banking operations and IT				x	x	x	x				x	x
6. Ability to understand and apply principles for managing people and IT systems	x	x	x	x	x	x	x					x
7. Ability to understand and apply principles for managing change projects and vendor relationships	x	x	x		x	x	x				x	x
8. Ability to coordinate and collaborate with business functions across the banking enterprise	x	x	x	x	x	x	x	x			x	x
9. Ability to communicate with and respond to CxOs	x	x	x	x	x	x	x	I	I	I	I	I
10. Ability to learn-how-to-learn in all areas covered by the MITB (Financial Services) curriculum	x	x	x	x	x	x	x	x	x	x	x	x

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Using original MITB(FS) learning outcomes for programme level curriculum design (2006, 2007)

Description:

Retrospective Reflections:

Forward Reflections:

SIS

VI. Updates on New Learning Experiences in and Related to the MITB (FS) Programme

6.1 The MITB(FS) Deep Domain Courses on Banking Processes, Solutions & Technology

Banking Processes, Solutions & Technology – 4 courses

Course Name	Key Contents
3.1 Banking Products & Processes	• Understanding key banking products and services in terms of: – Process flows and control requirements – Different customer types and channels • As-Is and To-Be analysis of product, service and process change
3.2 Retail Banking Solutions & Architecture	• Product and channel solutions spanning front to back office – Vendor application packages for core banking system, front office system – Delivery channels and payment systems • Customer analytics, security & privacy • Consumer banking technology trends • Architectural choices, trade-offs and change, legacy vs new technology
3.3 Corporate Banking Solutions & Architecture	• Product and channel solutions spanning front to back office – Treasury services, trade finance and institutional banking solutions • CRM and channels, Risk Management, Compliance and Accounting • Corporate banking technology trends • Architectural choices, trade-offs and change, legacy vs new technology
3.4 Managing Operational Risks	• Managing technology & operational risks due to – Technology operations, technology change – Regulation and compliance, regulatory change – Product change, market change – Transitional scenarios and steady state interruptions

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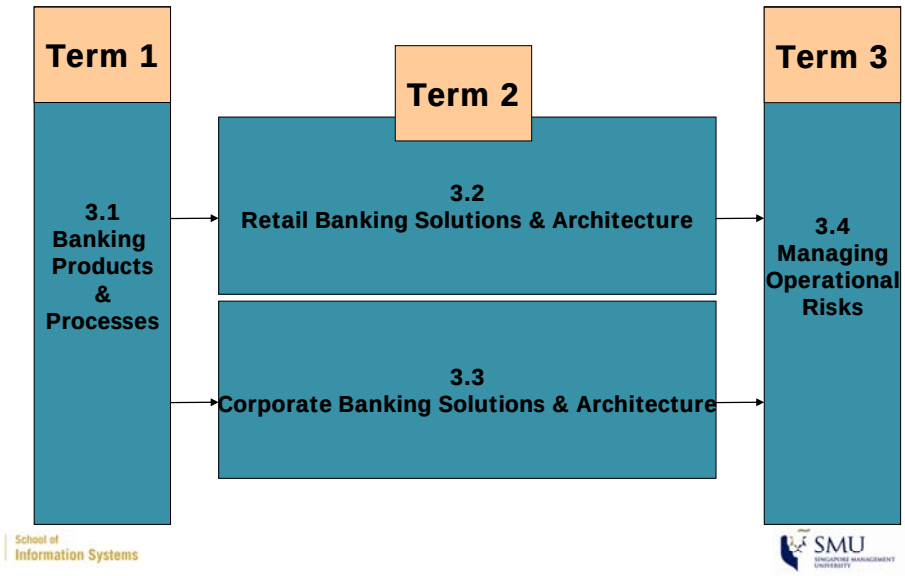
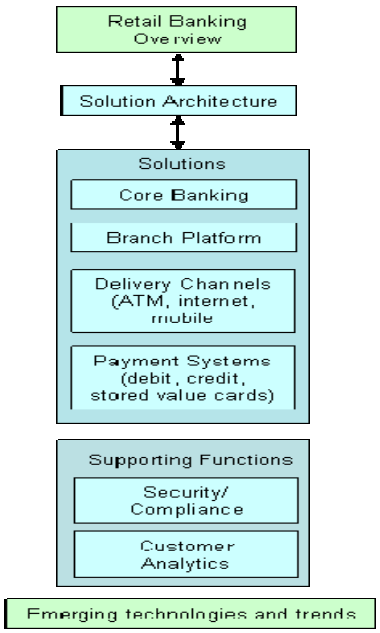
Banking Processes, Solutions & Technology - Course Flow



33

Retail Banking Solutions & Architecture - Course Outline



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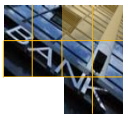
Retail Banking Solutions & Architecture - Takeaways



Retail Bank

Products & Services
- Net interest income
- Fee income

Trends
- Customer-centric
- Channel integration
- New technologies

Branch

Teller Platform

Delivery Channels

Integration Platform

Architecture

Bank

Core Banking

Payment Systems
Cheque, debit, credit, stored value cards etc

Security

Analytics

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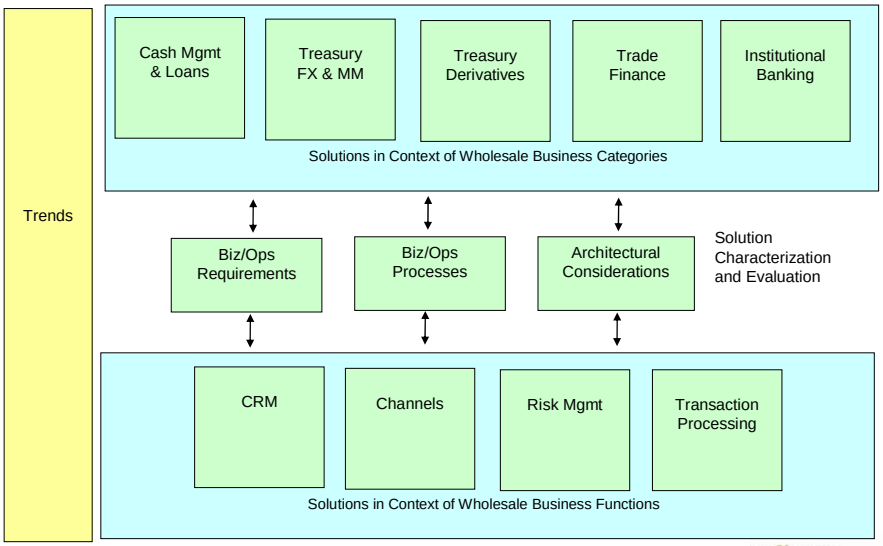
Corporate & Institutional Banking Solutions & Architecture – Course Overview



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Placeholder slide: Enoch's course

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Description:

Retrospective Reflections:

Forward Reflections:

The incorporation of a learning outcomes summary table into every course syllabus proved

6.2 The Inception of the SMU Banking Process Framework

The critical few core competencies required for a Banking IT professional to support "the business"

1. **Understand banking products for each major line-of-business in terms of**

a) End-to-end processes and work flows for each family of products

b) Operations functions and jobs supporting the product families

c) IT solutions (architecture, functionality, data management) used for front, middle and back office functions, corporate functions, and for external interactions

d) Product-Process-Operations-Technology linkages and critical interdependencies

e) How CHANGE events and scenarios (Δ Product, Δ Process, Δ Ops, Δ IT) will impact end-to-end work flow, service delivery and process performance

2. **Able to lead and manage Design-Source-Implement-Operate projects**

- IT focused and/or
- Process and operations focused

3. **Able to collaborate effectively with senior management across the various business functions and units of the bank**

- to support ***integrated*** Business-Process-Technology analysis, decision making and execution

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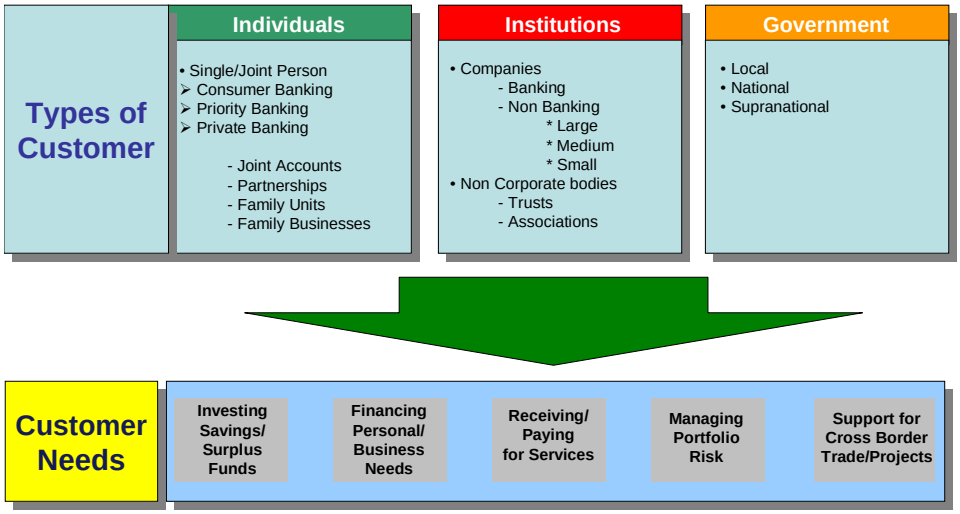
SMU Banking Process Framework: Customers and Needs



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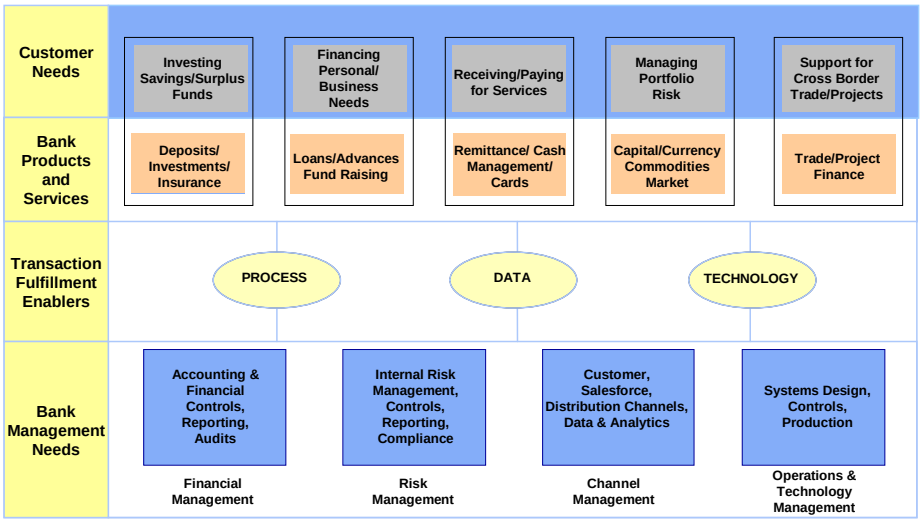
SMU Banking Process Framework: Overview



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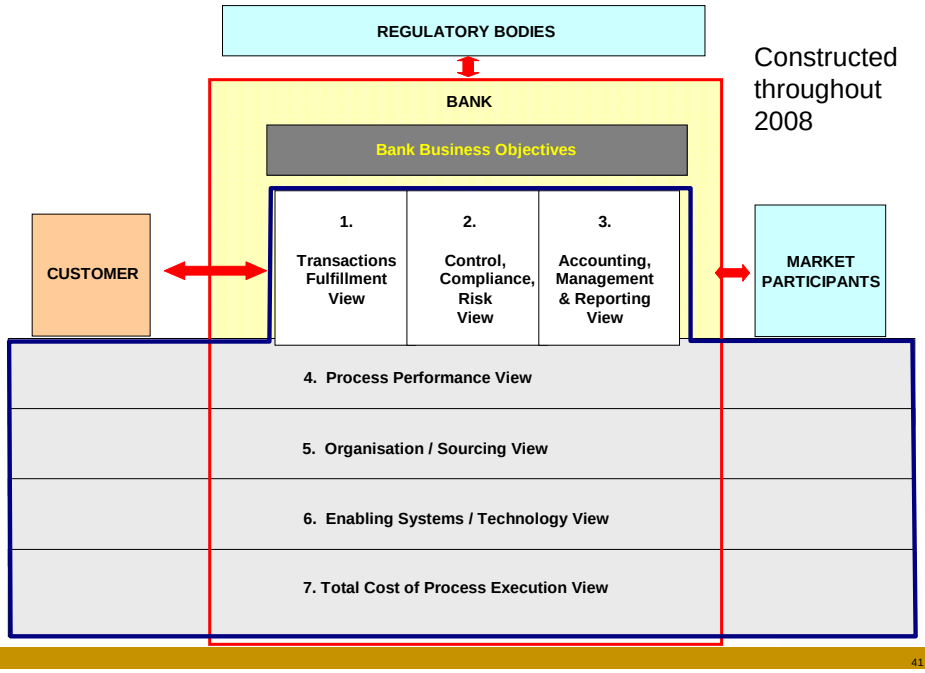
Original SMU Banking Process Framework : 7 Process Views



Constructed throughout 2008

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SMU Banking Process Framework : Summary Description of 7 Process Views

1. Transactions & Fulfillment View

- Product/service fulfillment requirements (internal, external)
- Essential process in terms of activities and sequences
- Transaction lifecycles, transaction states, transaction management

2. Control, Compliance and Risk View

- Market policies and rules, and data capture
- Risk management requirements, and data capture
- Audit requirements, and data capture
- Reporting requirements (Internal, Customer, Regulatory)

3. Accounting, Management & Reporting View

- Accounting and GL requirements
- Business and client management views
- How fulfillment of this product/service impacts P&L

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Version: 10 June 2008

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SMU Banking Process Framework : Summary Description of 7 Process Views (cont'd)

4. Process Performance View

- Service Levels
- Productivity (metrics)
- Unit cost per transaction
- Time (cycle times, critical time constraints)
- Quality (nature of errors, impact of errors, quality measures)
- Capacity (throughput measures, levels, constraints)

5. Organisational and Sourcing View

- View of fulfillment activities and transactions by:
  - Corporate entity (internal or external)
  - Organisational unit and job functions
  - Geographic location and time zone

6. Enabling Systems/ Technology View

- How IT applications support and enable the process (where, how)

7. Total Cost of Process Execution View

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Version: 10 June 2008 43

Description:

Retrospective Reflections:

Forward Reflections:

6.3 Early Stage Evolution of the Unified Banking Process Framework

Learning Outcomes (Level 1) for the original SMU Unified Banking Process Framework (2008)

1. To understand selected banking products & services in terms of the seven end-to-end process views.
2. To understand critical linkages and interdependencies across these seven end-to-end process views.
3. To understand processes in terms of basic functional building blocks, and how these building blocks can be varied to cater for changes in business requirements.
4. The ability to use this process framework to communicate and collaborate across Business, Operations & Technology.
5. The ability to use the process framework to analyse AS-IS end-to-end process performance issues for selected banking products and services.
6. The ability to use the process framework to analyse TO-BE end-to-end process possibilities for selected banking business change scenarios (e.g. new customer requirements, product modifications, cost reduction).

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Steve- add the IDA/NICF Knowledge revised knowledge map for Investment Banking: Capital Markets, Trading

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Description:

Retrospective Reflections:

Forward Reflections:

VII. Concluding Comments

This paper presents how the School of Information Systems of the Singapore Management University defined and refined a set of learning outcomes for its IS Bachelors program.

VIII. Acknowledgements

Grateful acknowledge is due to

- **Xx**
- **Xx**
- **Xx**
- **xx**

IX. REFERENCES

Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that

1. These links existed as of the date of publication but are not guaranteed to be working thereafter.

2. The contents of Web pages may change over time. Where version information is provided in the References, different versions may not contain the information or the conclusions referenced.

3. The author(s) of the Web pages is (are) responsible for the accuracy of their content.

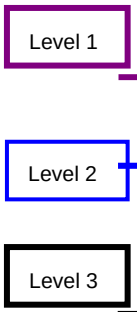
4. The author of this article, not the publisher, is responsible for the accuracy of the URL and version information.

Ducrot, Joelle; Miller, Steven; and Goodman, Paul S. (2008) . "Learning Outcomes for Business Information Systems Undergraduate Program," The Communications of the Association for Information Systems: Vol. 23, Article 6.
Available at: http://aisel.aisnet.org/cais/vol23/iss1/6

Halpern, Diane; Hakel, Milton (2003), "Applying the Science of Learning to the University and Beyond: Teaching for Long-Term Retention and Transfer," CHANGE Magazine, Vol 34, Issue 4, July/August, Pages 36 – 41. Published by the Carnegie Foundation for the Advancement of Teaching.
Available at:
http://psyc.memphis.edu/learning/applyingthesciencechange.pdf

APPENDIX 1: COMPLETE SET OF SIS LEARNING OUTCOMES FOR THE UNDERGRADUATE PROGRAMME

Source: Ducrot, J; Miller, S; and Goodman, P; (2008).



1	**Integration of business & technology in a sector context**
	1.1 Business IT value linkage skills
	Ability to understand & analyze the **linkages** between:
	a) Business strategy and business value creation
	b) Business strategy and information strategy
	c) Information strategy and technology strategy
	d) Business strategy and business processes
	e) Business processes or information strategy or technology strategy and IT solutions
	1.2 Cost & benefits analysis skills
	Ability to understand and analyze:
	a) Costs and benefits analysis of the project
	1.3 Business software solution impact analysis skills
	Ability to understand and analyze:
	a) How business software applications impact the enterprise within a particular industry sector
2	**IT architecture, design and development skills**
	2.1 System requirements specification skills
	Ability to:
	a) Elicit and understand functional requirements from customer

	b) Identify non functional requirements (performance, availability, reliability, security, usability etc.)
	c) Analyze and document business processes
	2.2 Software and IT architecture analysis and design skills
	Ability to:
	a) Analyze functional and non-functional requirements to produce a system architecture that meets those requirements.
	b) Understand and apply process and methodology in building the application
	c) Create design models using known design principles (e.g. layering) and from various view points (logical, physical etc.)
	d) Explain and justify all the design choices and tradeoffs done during the application's development
	2.3 Implementation skills
	Ability to:
	a) Realize coding from design and vice versa
	b) Learn / practice one programming language
	c) Integrate different applications (developed application, cots software, legacy application etc.)
	d) Use tools for testing, integration and deployment
	2.4 Technology application skills
	Ability to:
	a) Understand, select and use appropriate technology building blocks, components and packages when developing an enterprise solution (e.g. integration middleware, portal, ERP, CRM, SCM and other enterprise solutions)
3	**Project management skills**
	3.1 Scope management skills

	Ability to:
	a) Identify and manage trade-offs on Scope/Cost/Quality/Time
	b) Document and manage changing requirements
	3.2 Risks management skills
	Ability to:
	a) Identify, prioritize, mitigate and document project's risks
	b) Constantly monitor projects risks as part of project monitoring
	3.3 Project integration and time management skills
	Ability to:
	a) Establish WBS, time & effort estimates, resource allocation, scheduling etc.
	b) Practice in planning using methods and tools (Microsoft project, Gantt chart etc.)
	c) Develop / execute a project plan and maintain it
	3.4 Configuration management skills
	Ability to:
	a) Understand concepts of configuration management and change control
	3.5 Quality management skills
	Ability to:
	a) Understand the concepts of Quality Assurance and Quality control (Test plan, test cases etc.)
4	**Learning to learn skills**
	4.1 Search skills
	Ability to:
	a) Search for information efficiently and effectively
	4.2 Skills for developing a methodology for learning

	Ability to:
	a) Develop learning heuristics in order to acquire new knowledge skills (focus on HOW to learn versus WHAT to learn).
	b) Abide by appropriate legal, professional and ethical practices for using and citing the intellectual property of others
5	**Collaboration (or Team) skills:**
	5.1 Skills to improve the effectiveness of group processes and work products
	Ability to develop:
	a) Leadership skills
	b) Communication skills
	c) Consensus and conflict resolution skills
6	**Change management skills for enterprise systems**
	6.1 Skills to diagnose business changes
	Ability to:
	a) Understand the organizational problem or need for change (e.g. Analyze existing business processes or “as-is process”)
	6.2 Skills to implement and sustain business changes
	Ability to:
	a) Implement the change (e.g. Advertise / communicate the need for change etc.) and to sustain the change over time
7	**Skills for working across countries, cultures and borders**
	7.1 Cross-national awareness skills
	Ability to:
	a) Develop cross-national understandings of culture, institutions (e.g. law), language etc.
	7.2 Business across countries facilitation skills

	Ability to:
	a) Communicate across countries
	b) Adapt negotiation and conflict resolution techniques to a multicultural environment
8	**Communication skills**
	8.1 Presentation skills
	Ability to:
	a) Provide an effective and efficient presentation on a specified topic.
	8.2 Writing skills
	Ability to:
	a) Provide documentation understandable by users (requirements specification, risks management plan, assumptions, constraints, architecture choices, design choices etc.)

APPENDIX 2: DESCRIPTION OF LOMS SELF-ASSESSMENT LEVELS for the SIS LEARNING OUTCOMES FRAMEWORK

Source: Ducrot, J. , Miller, S., and Goodman, P., (2008).

Levels	Description of the Levels
Undeveloped	• Have not been exposed to subject
Slightly Developed	• Have been exposed to and understand basic concepts • Initial experience through class exercises, labs and course projects • Able to complete small course projects with guidance
Somewhat Developed	• Have been exposed to and understand intermediate concepts • Able to complete small to medium projects in course setting or industry internships with minimal guidance
Developed	• Have been exposed to and understand advanced concepts • Able to complete medium to large projects in course setting or industry internships with minor supervision • Have demonstrated the ability to learn-how-to-learn
Very Developed	• Strong understanding of advanced concepts • Solid experience in subject through internships or professional exposure • Able to lead and advise teams or projects in this area

ABOUT THE AUTHOR

Steven Miller is founding Dean of the School of Information Systems (SIS) at Singapore Management University, and also serves as Professor of Information Systems Practice. Prior to joining SMU, Dr. Miller served as Chief Architect Executive for the Business Consulting Services unit of IBM Global Services in Asia Pacific. He held prior senior industry appointments in the United States with Fujitsu Network Systems (Director of Manufacturing Engineering), and with RWD Technologies (Chief Scientist for Process Improvement). Dr. Miller started his professional career as an Assistant Professor at Carnegie Mellon University, doing research and teaching on impacts of Computer-Integrated Manufacturing and Industrial Robotic applications.

He earned a Bachelors of Engineering Degree in Systems Science & Engineering from the University of Pennsylvania, a Masters of Science in Statistics and a Ph.D. in Engineering and Public Policy, from Carnegie Mellon University.

Aside from executing the various research, educational and external outreach functions of a Dean, he is working on two major practice-oriented Business IT research projects: 1) leading a team effort to design and construct the “Unified Banking Process Framework”, in collaboration with Technology, Process, and Operations leaders of the global Banking industry and fellow SMU faculty involved in SIS educational initiatives in Banking, and 2) Collaborating with the Infosys Learning and Research Division and fellow SIS faculty members on “Architecting Learning Outcomes and Experiences for Educating Business IT Professionals”.

School of Information Systems

SMU Singapore Management University

Learning Outcomes and Experiences for a Business Information Systems Curriculum: Retrospective and Forward Reflections

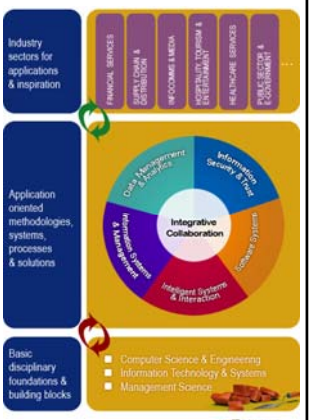
Presented on 31 January 2009 at the
iBiZ2009 Symposium
Graduate School of International Management
Aoyama Gakuin University

Presented by
Steven Miller, Professor of Information Systems Practice
and Dean, School of Information Systems, SMU

1

The SIS Context: A School of Information Systems, within SMU, a Management Oriented University

The SIS Model



2

Learning outcomes & experiences for our professionally oriented educational programmes (Bachelors, Masters)

At the Bachelors level:
- BSc (IS Management)
- Pioneer Intake August 2003

At the Masters level:
- Master of IT in Business, MITB (Financial Services)
- Pioneer intake, August 2007

3

Objectives of our Bachelors educational programme, BSc (IS Management) (from 2003 blueprint thru 2008 revision)

1. Produce graduates who are entry level "Business IT Professionals", who can
2. Work for EITHER end-user business organisations, OR for IT services/solution provider organisations
3. Work at the complex interface of IT & Business, OR on "either side of the line"
4. Achieve a competency level of at least "Somewhat Developed" across all eight of the BSc (ISM) Learning Outcomes (Levels I, II and III)
   - Achieve a competency level of at least "Developed" for *Learning-to-Learn* skills across all of the curriculum's Learning Outcomes
5. Develop and retain a lifelong curiosity and passion for leveraging IT in business and organisational settings
   - for productivity, transformation, value creation, strategy enhancement, entrepreneurship

4

Sounds Great!

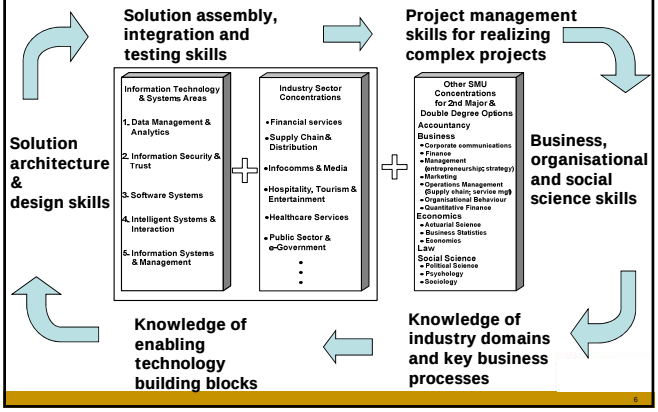
But what does this really mean?

How we define the appropriate skills, competencies and learning outcomes?

And how do we clearly identify and design the supporting learning experiences?

5

Our Starting Points, #1): The SIS Three Pillars Model, with high level skills & knowledge (from 2003 Blueprint, with revisions)



6

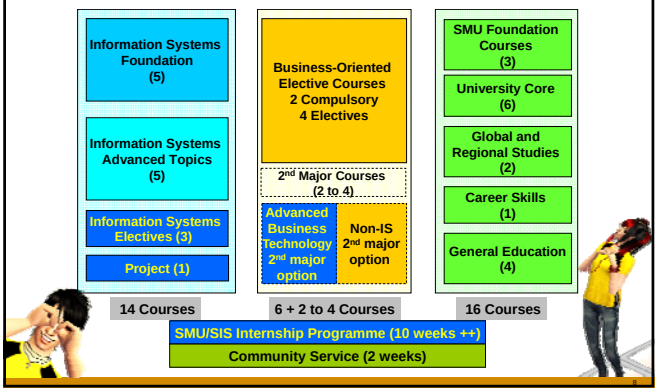
Our Starting Points, #2): The SIS Learning Outcomes Framework for our BSc (ISM)
(from 2003 Blueprint, with 2006 Revision)

1. Integration of business & technology in a sector context
2. IT architecture, design and development skills
3. Project management skills
4. Learning-to-earn skills
5. Collaboration skills
6. Change management skills for enterprise system
7. Skills for working across countries, cultures and borders
8. Communication skills

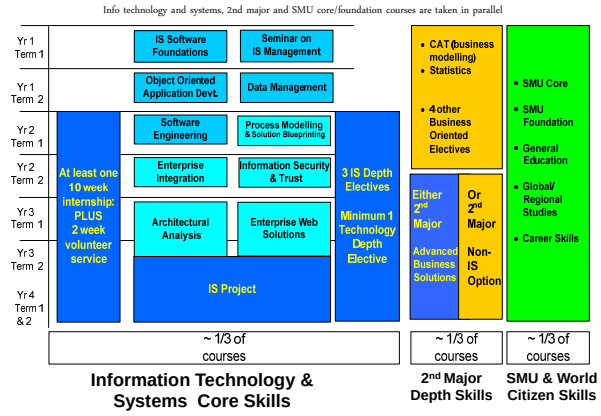
BSc (ISM) Learning Outcomes Web Site

Our Starting Points, #3) The BSc (ISM) curriculum model overview (from 2003 Blueprint thru 2008 Revision)

BSc(ISM) Curriculum Structure with 2nd Major Options



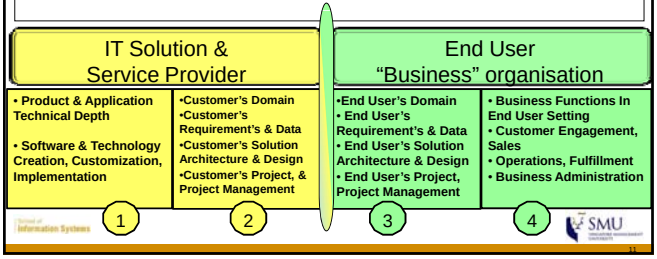
Our BSc (ISM) curriculum model, highlighting the specific IS courses (from 2003 Blueprint thru 2008 Revision)



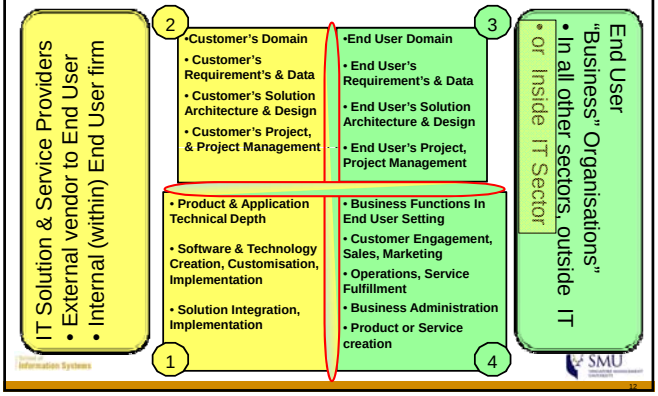
The expanded ability to pursue Business IT or Regular Business Career Paths

At the Business IT interface, or "on either side of the line" model (from 2004 onward)

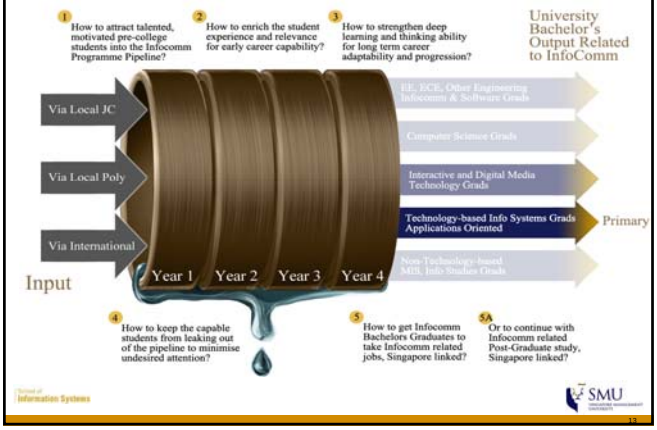
1. Produce an entry level "Business IT Professional"
2. **Able to work for EITHER end-user organisations, OR for IT services/solution provider organisations**
3. **Able to work at the complex interface of Business & IT, OR on "either side of the line"**



At the Business IT interface, or "on either side of the line" model
(2006 onward, as we saw more data on internship, employment results)

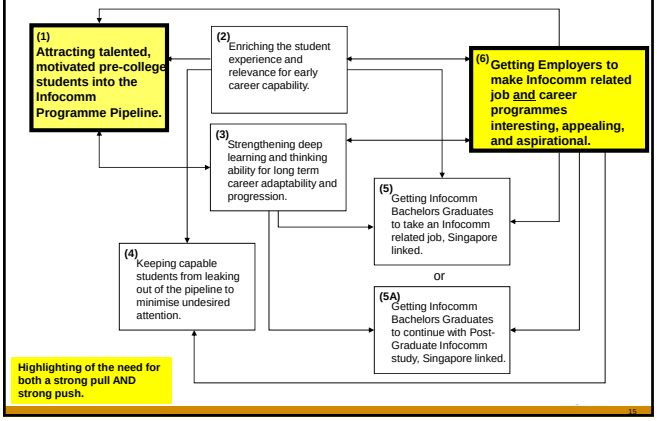


The SIS BSc (ISM) Pipeline Model for Producing Business IT Graduates (from 2008)

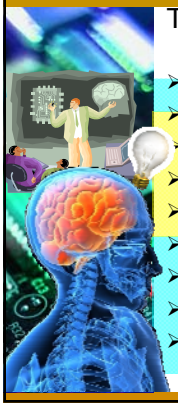


Pipeline Model Details on the Types of IT graduates produced by SIS (from 2008)

Our IT Manpower Production Pipeline Model as an Influence Diagram to Highlight Ecosystem Relationships (from 2008)

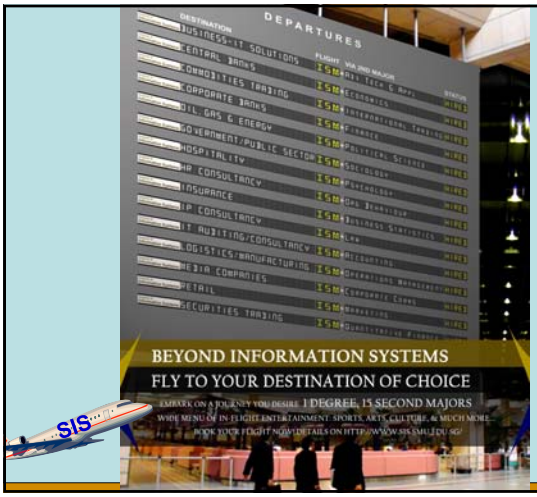


Communicating how our BSc programme "expands your mind. " Creating competencies especially strengthened by IT studies, which also apply to all business related work.



The SIS experience strengthens your ability for:

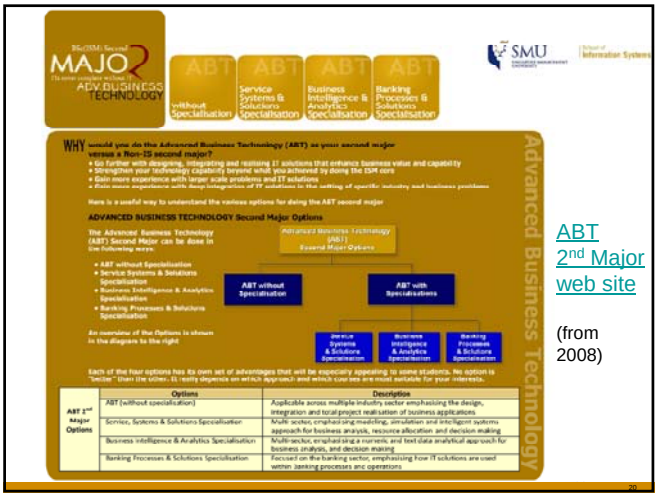
- Comprehending complexity & interconnections
- Innovating
- Problem solving
- Designing
- Solutioning
- Communicating & collaborating
- Dealing with rapid change
- Managing projects
- LEARNING-TO-LEARN



Poster used for outreach to current students and potential applicants to emphasize importance of IS Plus 2nd major (from 2006).

Educating our students about 2nd Major options offered through other SMU schools and within SIS (from 2008)

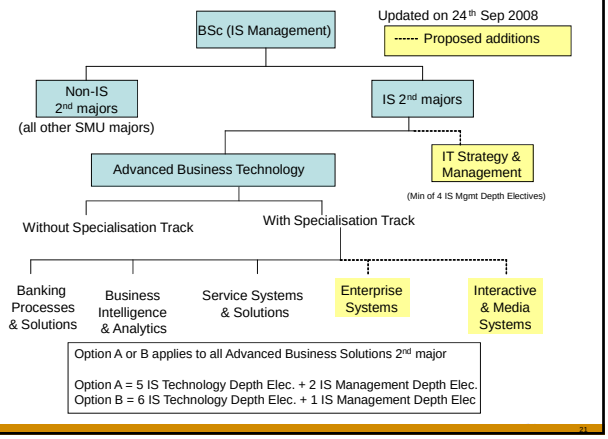
BSc (ISM) 2nd major website



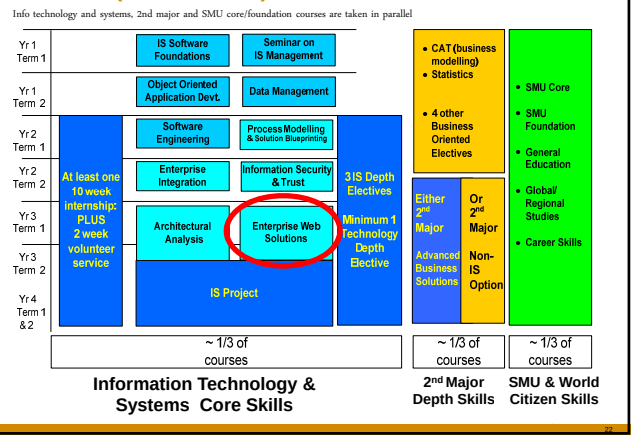
ABT 2nd Major web site

(from 2008)

SIS Plans for Improvement & Expansion of BSc (IS Mgt) Programme



Addition of a new required course, Enterprise Web Solutions (as of 2008 AY)

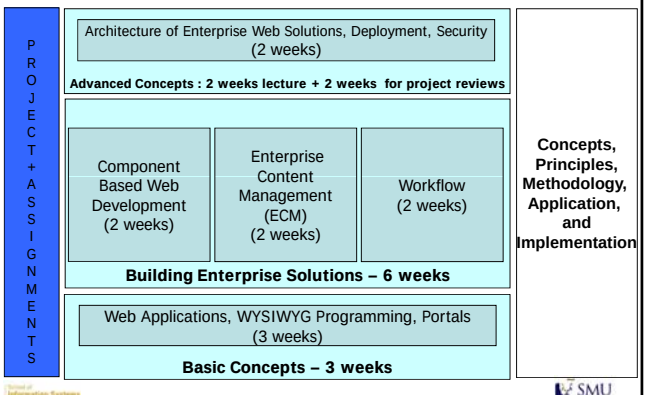


Objectives for the Enterprise Web Solutions course (from 2008, with 2009 revision)

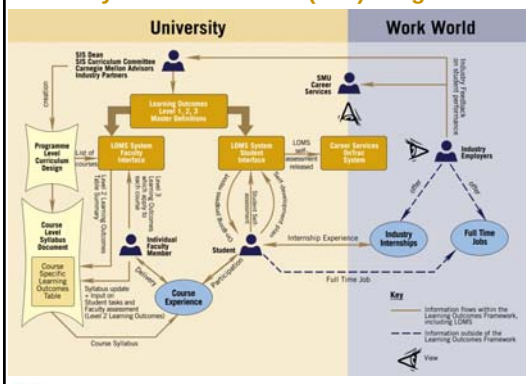
Upon successful completion of this course, a student will be able to:

1. Demonstrate the ability to design, build, and deploy a large scale multi-tier Web solution in the context of a business environment.
2. Use Portals to implement human interactions and workflow management across business processes.
3. Construct an end-to-end Web Solution by assembling, configuring and integrating existing building blocks, and complementing them with custom built components.
4. Identify the important deployment considerations when deploying multi-tier Web solutions.
5. Apply ASP.NET and Microsoft SharePoint to create enterprise Web solutions.

Structure of the Enterprise Web Solutions Course (from 2008, with 2009 revision)

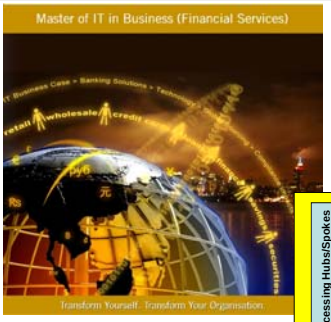


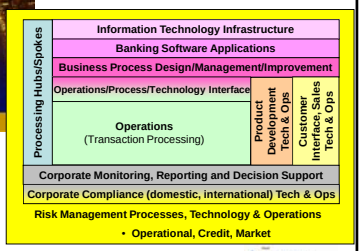
The SIS Learning Outcomes Framework and Enabling LOMS System for the BSc (ISM) Programme



Source: **Ducrot, Joelle; Miller, Steven; and Goodman, Paul S. (2008).** "Learning Outcomes for a Business Information Systems Undergraduate Program," *The Communications of the Association for Information Systems*: Vol. 23, Article 6. Available at: http://aisel.aisnet.org/cais/vol23/iss1/6

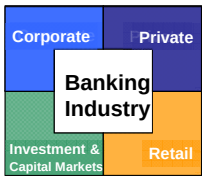
Our MITB (Financial Services): Flagship of our SMU SIS -Banking Industry Joint Initiative focused on grooming talent and leadership for Technology, Processes & Operations





Technology & Operations in Banking goes beyond the one (or "Ops & Tech"). It is pervasive within the enterprise, and also across the industry.

The SMU SIS - Banking Industry Joint Initiative to Develop Business IT Professionals Prepared for Banking Technology, Processes & Operations (initiated in 2006)



SMU SIS Banking Tech & Ops Programmes

- **Masters Level**
- **Professional Short Courses**
- **Undergraduate Level**

Joint effort to develop skilled IT Professionals for the banking and financial services

ATTRACT
PREPARE
RETAIN

Objectives for our Professional Masters programme, MITB (Financial Services) (from 2006, with revisions)

To enable IT professionals (already skilled in IT basics) to:

1. Understand the connections across banking products, processes, operations, IT solutions, and innovation strategy within each segment of banking.
2. Lead and manage technology, process, and operational change initiatives.
3. Fulfill the vital bridging roles across the overlapping boundaries of IT, Process Operations, Senior Management, and the Banking Lines of Business.
4. Work more effectively with the top level executives on the business aspects of process and technology change.
5. Become senior process consultants, solution architects and designers, and transformation project heads in banks and other financial institutions.
6. Move into senior management and executive positions within the Technology and Operations Group of Banking and Financial Services firms.

Original Learning Outcomes for MITB (FS) (from 2006/07)

1. Acquire in-depth sector domain knowledge
2. Ability to integrate business & technology in the sector
3. Acquire enterprise IT architecture and solutions expertise in the sector
4. Ability to define & implement Business IT processes, solutions & strategy
5. Ability to assess and manage Business IT risks
6. Acquire business IT and people management skills
7. Ability to manage projects and vendors
8. Skills for interacting with enterprise-wide business functions
9. Ability to interact with CxOs
10. Acquire learning-to-learn skills

MITB (FS) Programme Curriculum

Announced 2007, with ongoing upgrading

1. **General Management – 3 courses**
   - 1.1 Accounting for Managers
   - 1.2 Strategy & Organisation
   - 1.3 Finance
2. **IT and Project Management – 4 courses**
   - 2.1 IT Governance and Innovation Management
   - 2.2 Spreadsheet Modelling for Business Decisions
   - 2.3 IT Project and Vendor Management
   - 2.4 Global Sourcing Management
3. **Banking Processes, Solutions & Technology – 4 courses**
   - 3.1 Banking Products and Processes
   - 3.2 Retail Banking Solutions & Architecture
   - 3.3 Corporate & Institutional Banking Solutions & Architecture
   - 3.4 Managing Operational Risks in Banking
4. **Project – equivalent to 2 courses**
   - 4.1a Project definition, development & critique workshops
   - 4.1b Industry Expert seminars & company site visits
   - 4.2 Project delivery (final term)

Learning Outcomes	1.1 Accounting for Managers	1.2 Strategy and Organisation	1.3 Finance	2.1 IT Governance & Innovation	2.2 Spreadsheet Modelling for Business Decisions	2.3 IT Project & & Vendor	2.4 Global Sourcing & Management	3.1 Banking Products & Processes	3.2 Retail Banking Solutions & Architecture	3.3 Corporate & Institutional Banking Solutions & Architecture	3.4 Managing Operational Risks	4.1 Project
1. Understand banking products, fulfilment processes, and enabling systems in terms of the SMU Banking Process Framework								x	x	x	x	x
2. Ability to integrate business concerns with technology solutions in the banking sector					x			x	x	x	x	x
3. Understand the foundations of enterprise IT solutions and architecture across the different segments of banking								x	x	x	x	x
4. Ability to define & implement Business IT processes, solutions & strategy				x	x	x	x	x	x	x	x	x
5. Ability to assess and manage risks related to banking operations and IT				x	x	x	x				x	x
6. Ability to understand and apply principles for managing people and IT systems	x	x	x	x	x	x	x					x
7. Ability to understand and apply principles for managing change projects and vendor relationships	x	x	x		x	x	x				x	x
8. Ability to coordinate and collaborate with business functions across the banking enterprise	x	x	x	x	x	x	x	x			x	x
9. Ability to communicate with and respond to CxOs	x	x	x	x	x	x	x	I	I	I	I	I
10. Ability to learn-how-to-learn in all areas covered by the MITB (Financial Services) curriculum	x	x	x	x	x	x	x	x	x	x	x	x

Using original MITB(FS) learning outcomes for programme level curriculum design (2006, 2007)

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Banking Processes, Solutions & Technology – 4 courses

Course Name	Key Contents
3.1 Banking Products & Processes	• Understanding key banking products and services in terms of: – Process flows and control requirements – Different customer types and channels • As-Is and To-Be analysis of product, service and process change
3.2 Retail Banking Solutions & Architecture	• Product and channel solutions spanning front to back office – Vendor application packages for core banking system, front office system – Delivery channels and payment systems • Customer analytics, security & privacy • Consumer banking technology trends • Architectural choices, trade-offs and change, legacy vs new technology
3.3 Corporate Banking Solutions & Architecture	• Product and channel solutions spanning front to back office – Treasury services, trade finance and institutional banking solutions • CRM and channels, Risk Management, Compliance and Accounting • Corporate banking technology trends • Architectural choices, trade-offs and change, legacy vs new technology
3.4 Managing Operational Risks	• Managing technology & operational risks due to – Technology operations, technology change – Regulation and compliance, regulatory change – Product change, market change – Transitional scenarios and steady state interruptions

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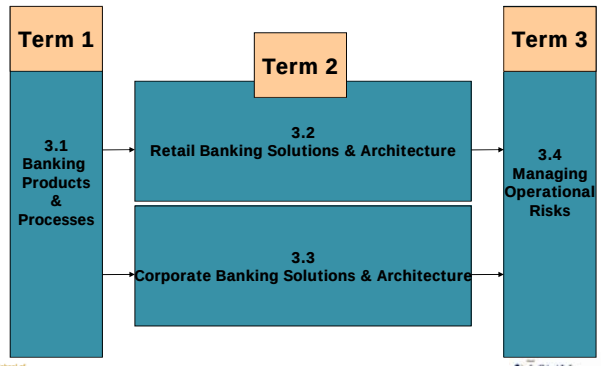
Banking Processes, Solutions & Technology - Course Flow



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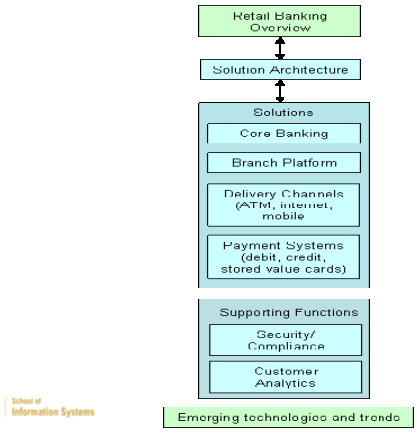
Retail Banking Solutions & Architecture - Course Outline



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Retail Banking Solutions & Architecture - Takeaways

Retail Bank

Products & Services
- Net interest income
- Fee income

Trends
- Customer-centric
- Channel integration
- New technologies

Branch

Teller Platform

Integration Platform

Architecture

Bank

Core Banking

Delivery Channels

Payment Systems
Cheque, debit, credit, stored value cards etc

Security

Analytics

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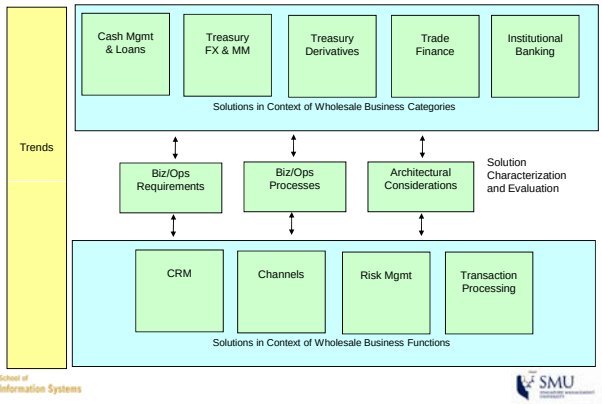
Corporate & Institutional Banking Solutions & Architecture – Course Overview



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The critical few core competencies required for a Banking IT professional to support "the business"

1. **Understand banking products for each major line-of-business in terms of**

a) End-to-end processes and work flows for each family of products

b) Operations functions and jobs supporting the product families

c) IT solutions (architecture, functionality, data management) used for front, middle and back office functions, corporate functions, and for external interactions

d) Product-Process-Operations-Technology linkages and critical interdependencies

e) How CHANGE events and scenarios (Δ Product, Δ Process, Δ Ops, Δ IT) will impact end-to-end work flow, service delivery and process performance

2. **Able to lead and manage Design-Source-Implement-Operate projects**

- IT focused and/or
- Process and operations focused

3. **Able to collaborate effectively with senior management across the various business functions and units of the bank**

- to support ***integrated*** Business-Process-Technology analysis, decision making and execution

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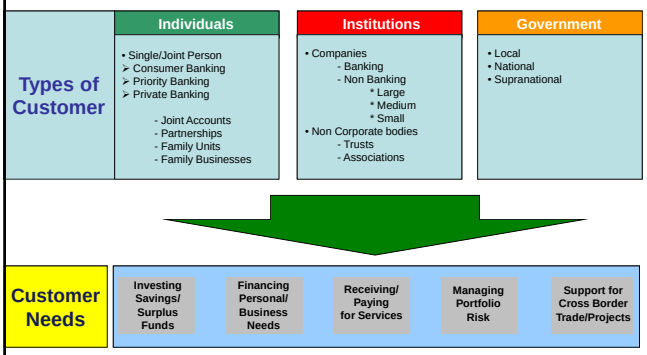
SMU Banking Process Framework: Customers and Needs



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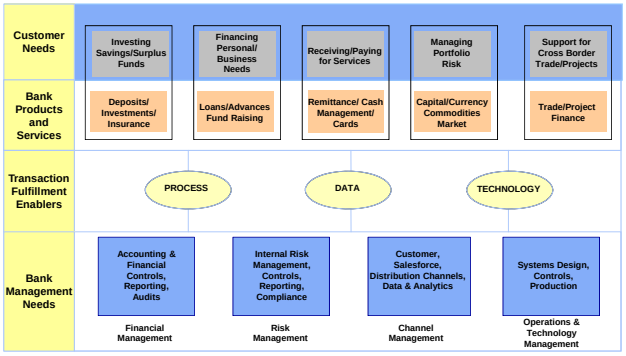
SMU Banking Process Framework: Overview



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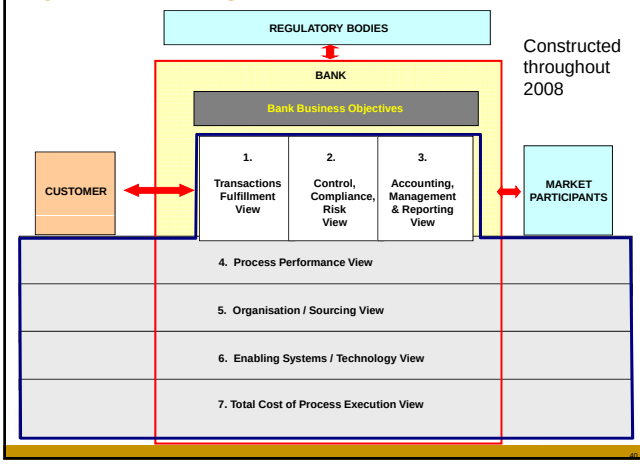
Original SMU Banking Process Framework : 7 Process Views



Constructed throughout 2008

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SMU Banking Process Framework : Summary Description of 7 Process Views

1. **Transactions & Fulfillment View**
   - Product/service fulfillment requirements (internal, external)
   - Essential process in terms of activities and sequences
   - Transaction lifecycles, transaction states, transaction management
2. **Control, Compliance and Risk View**
   - Market policies and rules, and data capture
   - Risk management requirements, and data capture
   - Audit requirements, and data capture
   - Reporting requirements (Internal, Customer, Regulatory)
3. **Accounting, Management & Reporting View**
   - Accounting and GL requirements
   - Business and client management views
   - How fulfillment of this product/service impacts P&L

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SMU Banking Process Framework : Summary Description of 7 Process Views (cont'd)

4. **Process Performance View**
   - Service Levels
   - Productivity (metrics)
   - Unit cost per transaction
   - Time (cycle times, critical time constraints)
   - Quality (nature of errors, impact of errors, quality measures)
   - Capacity (throughput measures, levels, constraints)
5. **Organisational and Sourcing View**
   - View of fulfillment activities and transactions by:
     - Corporate entity (internal or external)
     - Organisational unit and job functions
     - Geographic location and time zone
6. **Enabling Systems/ Technology View**
   - How IT applications support and enable the process (where, how)
7. **Total Cost of Process Execution View**

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Learning Outcomes (Level 1) for the original SMU Unified Banking Process Framework (2008)

1. To understand selected banking products & services in terms of the seven end-to-end process views.
2. To understand critical linkages and interdependencies across these seven end-to-end process views.
3. To understand processes in terms of basic functional building blocks, and how these building blocks can be varied to cater for changes in business requirements.
4. The ability to use this process framework to communicate and collaborate across Business, Operations & Technology.
5. The ability to use the process framework to analyse AS-IS end-to-end process performance issues for selected banking products and services.
6. The ability to use the process framework to analyse TO-BE end-to-end process possibilities for selected banking business change scenarios (e.g. new customer requirements, product modifications, cost reduction).

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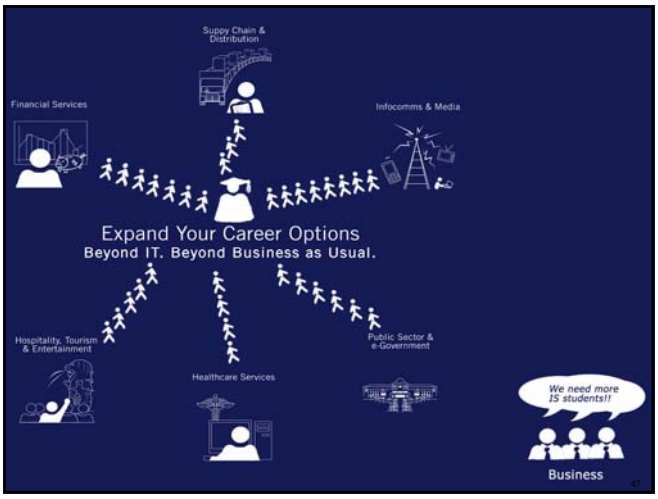


Teaching Business in the Small Liberal Arts College in the United States

Ted Brown, PhD
President
Martin Methodist College
Pulaski, Tennessee

Abstract

Small liberal arts colleges are a relatively unique sector of the higher education industry in the United States. These institutions tend to concentrate on teaching and the engagement of students as their highest priorities, while providing a residential setting that enables students to make learning their singular focus. These distinguishing characteristics of small, residential liberal arts colleges also translate into a distinctive approach to the teaching of Business. This essay provides an overview of the special nature of small college Business programs by looking at one such institution, Martin Methodist College.

Introduction

Martin Methodist College is a 139-year-old residential, liberal arts institution in Pulaski, Tennessee, near Nashville. The college was founded by Methodists and offered its first classes in the local church building. Although the college has evolved over time—from women's academy to coed junior college to residential baccalaureate institution—its predominant mission and connection to the church have remained constant.

Martin Methodist maintains an enrollment around 1,000 students, with about 25% commuting from homes in the area and 75% in residence. Residential students come to Martin from significant distances, typically from 40 states beyond Tennessee and 30 countries beyond the United States. The college has a faculty of 70 scholars, most with fulltime teaching responsibilities and 75% holding the terminal degree in their fields of study. The college seeks to maintain a student-to-faculty ratio below 15:1 and an average class size of fewer than 20 students.

Martin Methodist provides an academic program that balances its students' needs for broad liberal arts education and career preparation. All students complete General Education classes representing about 40% of their degree work, with requirements for their major fields of study and elective courses filling out the four year program. The college offers 28 fields of study, with a good mix of traditional liberal arts and sciences majors (History, English, Biology, Sociology, etc.) and career-oriented majors (Business, Teacher Education, Nursing, etc.).

Martin's accreditation comes from a regional peer accrediting agency, which is typical of U.S. educational institutions. As a private college, Martin Methodist College is governed by an independent, self-perpetuating Board of Trustees whose members are confirmed by a United Methodist judicatory. The college maintains no direct affiliation with the State of Tennessee aside from its basic corporate charter, although some of its specific programs are licensed through state

agencies (e.g., teacher education and nursing). At the same time, the State of Tennessee sees the 37 private institutions within its borders as crucial educational assets and maintains two scholarship programs that benefit Martin students from Tennessee to a significant degree.

The foregoing profile of Martin Methodist College represents a fairly typical example of the residential liberal arts colleges that make up a significant portion of the higher education sector in the United States. According to the Carnegie Classification of Higher Education Institutions, of the 4,400 accredited higher education institutions in the United States, small liberal arts colleges currently represent approximately 25%. The other higher education sectors include the research universities (7%), the teaching universities (14%), the community/junior colleges (35%) and specialized institutions (independent schools of theology, law, music, etc.) (20%). Of course, these sectors are not as easily differentiated as the Carnegie Classification might suggest and there are many variations within each division.

An historical perspective suggests that higher education in the United States actually began with the small residential colleges, some of which evolved into large research universities (e.g., Harvard University). The public land-grant universities emerged later; with the community college sector representing the most recent addition. While recent years have seen a clear shift in the student population toward the university sectors, the small liberal arts colleges continue to offer programs that are compelling to a significant number of students. These programs are marked by certain distinctions, as indicated below:

Distinctions

The small liberal arts college sector, while quite diverse within the group, embodies certain educational characteristics that make it distinct from the other educational sectors in the United States.

- Educational Quality: The small liberal arts colleges tend to be teaching institutions that employ faculty members who are drawn to a high level of student contact. In addition, the campus communities provide specialized settings that focus on relationships, especially between students and faculty, along with other educational support providers. These close connections between faculty and students serve as the foundation for an uncommon level of student engagement in the learning process, which is clearly the key to a high quality educational experience.
- Residential Experience: Small liberal arts colleges typically provide an opportunity for a significant proportion of their student populations to reside on campus in traditional dormitories or more recently in apartment or suite-style facilities. This residential setting attempts to provide an all-encompassing educational experience that enables students to leave

their home settings and focus exclusively on the pursuit of learning. The residential element tends to broaden the range and enhance the intensity of the educational experience.

- Value Orientation: Most small liberal arts colleges include in their mission statements some element that includes the moral development of students as part of the goals of their programs. In many cases these are church-related institutions that are attempting to embody the values of their sponsoring churches within the educational experience. In addition, many institutions include a broader value orientation that attempts to serve society in general; for instance, issues of civic responsibility, community service engagement, environmental sustainability, etc. Many institutions maintain expansive curricular, co-curricular and extra-curricular programs that address these goals within their missions.

Teaching Business

Many small, liberal arts colleges offer extensive curricular opportunities preparing students for careers in Business. Some maintain a more philosophical approach with majors in Economics, while many have adopted a university Business school model that provides genuine professional preparation for specific careers in Business, e.g., management, accounting, management information systems, etc. These programs tend to be an important way for these institutions to engage the element of their missions that relate to encouraging students to live fulfilling and productive lives. In addition, Business programs offer a dynamic setting for engaging issues of moral development, as well as provide an opportunity for the institution to be involved in public service to the surrounding community and region.

The same characteristics that provide learning advantages for students at small, liberal arts colleges also influence students in the Business programs. The small classes and close connections between faculty and students certainly tend to enhance the classroom and co-curricular experience. In addition, the residential settings often provide exceptional opportunities for students to gain experience in work-study positions across the campus or in cooperative programs with local industries. Further, graduates from Business programs often utilize their close faculty relationships long into their careers, with faculty members serving as placement references and informal business consultants. The following characteristics suggest some of the unique dynamics of the teaching of Business in a particular small college setting at Martin Methodist College:

Curriculum: Martin Methodist provides a fairly representative example of a small, liberal arts college's offerings in Business, with majors in Management, Accounting, Management Information Systems, Entrepreneurship, Sport Management, Healthcare Management, Business Education and Church Business. These programs all represent some connection to the college's primary mission and/or attention to some special interest in the college's locale. For example, the Sport Management

program responds to the unusual level of professional sports activity in middle Tennessee, the Business Education program provides teaching certification for teachers of Business at the secondary school level, and the Church Business program responds to the college's connection to the United Methodist Church by training professionals to meet the financial and management needs of larger congregations. Business programs enroll approximately 250 students or 25% of the college's total student body at Martin Methodist.

Experiential Learning: Martin Methodist provides a paid work placement on campus for every residential student. Students in a Business major have an opportunity to negotiate a placement that relates to their fields of study. While this provides a needed source of income for many students, it offers crucial career-oriented experience for Business students. An excellent example of the influence of Business students on the campus is the establishment four years ago of a first-run movie theater utilizing the college's 600 seat auditorium. This student-managed cinema now generates an average of $120,000 per year in net income to the college's budget. In addition, local and regional industries provide some internship placements for Business students, although often with little or no compensation. These placements sometimes lead to future employment offers, but always provide valuable experience and employment contacts. Further, Business faculty members are often engaging in special projects with local industries and business associations (chambers of commerce, trade organizations, etc.) for marketing surveys and employment studies that engage groups of students in valuable research.

Local/Regional Impact: Martin Methodist makes special use of its Business program to advance its relationship to the local area and its region. Not only is the college attentive to the needs of the business community in terms of its curricular offerings, but special seminars and workshops are often provided for specific local industries—sometimes at their plant locations. The college has established a new Entrepreneurship Institute, in connection with the local chamber of commerce, that provides training and mentoring for local small business owners. This initiative includes services for those interested in establishing new businesses, including a business incubator program to support start-up operations.

Internet Business: Four years ago the college launched a new technology-oriented Business major to respond to the increasing level of interest in Internet business opportunities. This program provides a base of technology-oriented courses combined with extensive Business-oriented coursework that provides an excellent foundation for Internet business activity. This program has also been of interest to local industry and small businesses in the local area and region in terms of establishing or expanding their presence on the Internet. Further, students from a variety of other disciplines have taken the Internet Business classes in order to better understand the potential impact of the Internet on their careers.

Moral Development: Martin Methodist College is especially concerned about the moral and ethical development of its students, an issue that emerges directly from its mission statement. This concern is not only part of the basic fabric of the institution through its church connection; it is also very intentionally included in the educational experience of all students. As part of the General Education curriculum, every Martin student is required to take a class in Ethics that is focused on decision making and engages particular contemporary moral challenges. In addition, a Business Ethics class is required in each of the majors within the Business program. This course is based on a survey of potential moral and ethical dilemmas faced by the modern business professional and provides students with a framework for developing their own principles for moral decision-making. The specific moral issues that are addressed in the Business Ethics class are constantly evolving based on the news of the day or high profile cases in business. This class utilizes the case study method and engages students in discussion at a high level. In general, the professors teaching the class attempt to include cases related to corporate governance, responsible management, truth in marketing, labor practices, compensation patterns, environmental challenges, government relations and accounting standards, among others. It is important to note that the course does not necessarily advocate a particular set of moral values, but instead provides students with the intellectual tools for identifying and analyzing a moral dilemma in a business setting and then offers a framework for applying their particular moral values to that situation.

Martin Methodist College is a fairly typical small liberal arts college in its approach to teaching Business. With its representative focus on teaching and the engagement of students, along with the residential environment, the college brings a distinctive approach to its Business programs. The high level of success that alumni of Martin Methodist have achieved in business ventures is a good indication of the worth of the small college approach to the teaching of Business.

Ted Brown *recently is in his eleventh year of service as president of Martin Methodist College, having led the 139 year-old institution through a time of redevelopment and expansion. He serves as a member of the Board of Directors of the International Association of Methodist Schools, Colleges and Universities (IAMSCU) and was recently elected to a three-year term as its president. Brown is also a board member and chair of the International Education Committee of the National Association of Schools and Colleges of the United Methodist Church (NASCUMC). Brown earned the B.A. degree at West Virginia Wesleyan College, M. Div. and Ph.D. from Vanderbilt University and did post-doctoral study at Harvard University.*

インターネットビジネス教育システムモデルの
今後に期待するもの

青山学院大学　国際マネジメント研究科　博士課程D. B. A

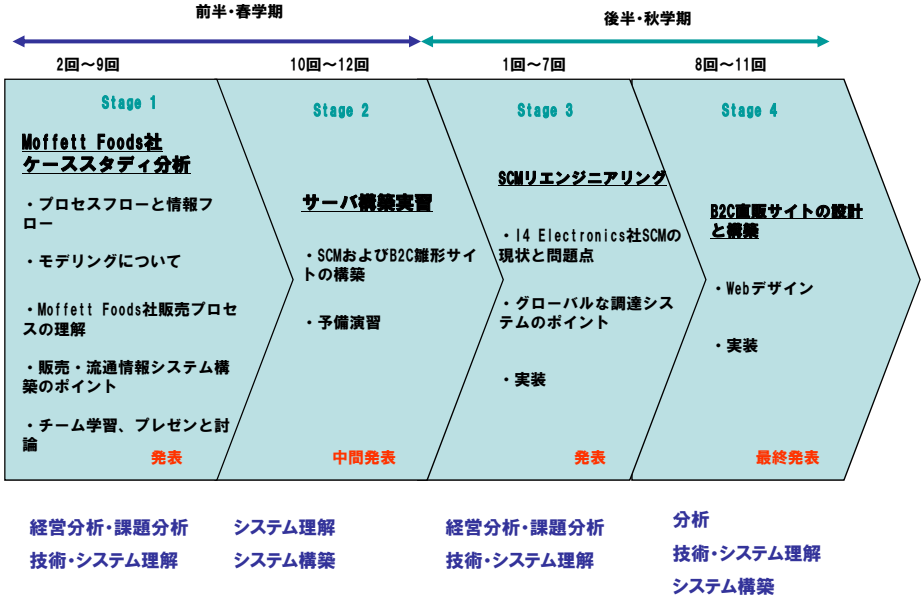
ソフトバンクグループ　オーマイニュース株式会社
代表取締役社長

小宮紳一

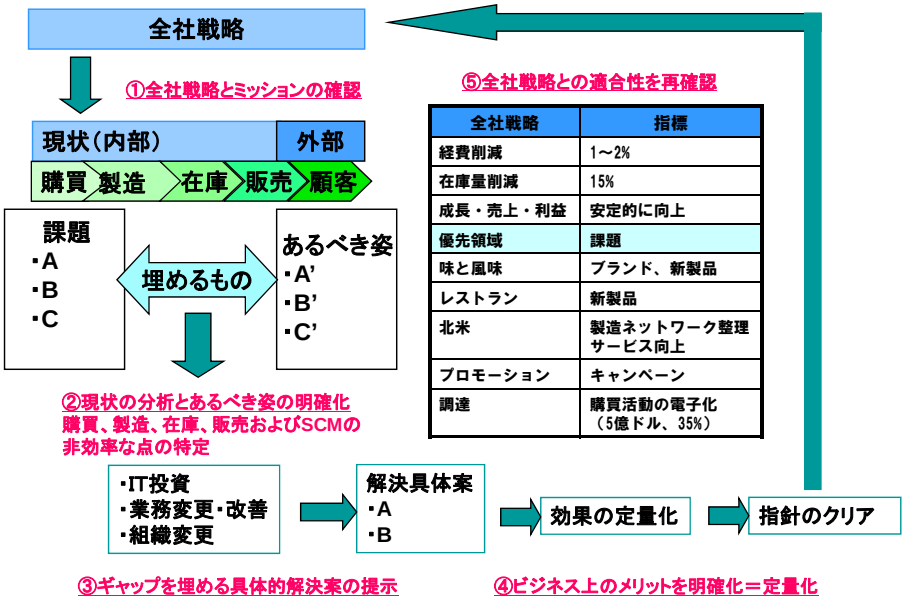
インターネットビジネス教育との関わり

- 2005年 インターネットビジネスプロジェクト受講
  - プロジェクト初年度
- 2007年2月　iBiZ2007における研究発表（マレーシア）
  - “Actual situation of behavior targeting in internet advertisement in Japan”
- 2007年　インターネットビジネスプロジェクトにおける授業およびチームプロジェクト評価
  - Stage3「Webマーケティングおよび SEOについて」（2コマ担当）

インターネットビジネスプロジェクトの概要

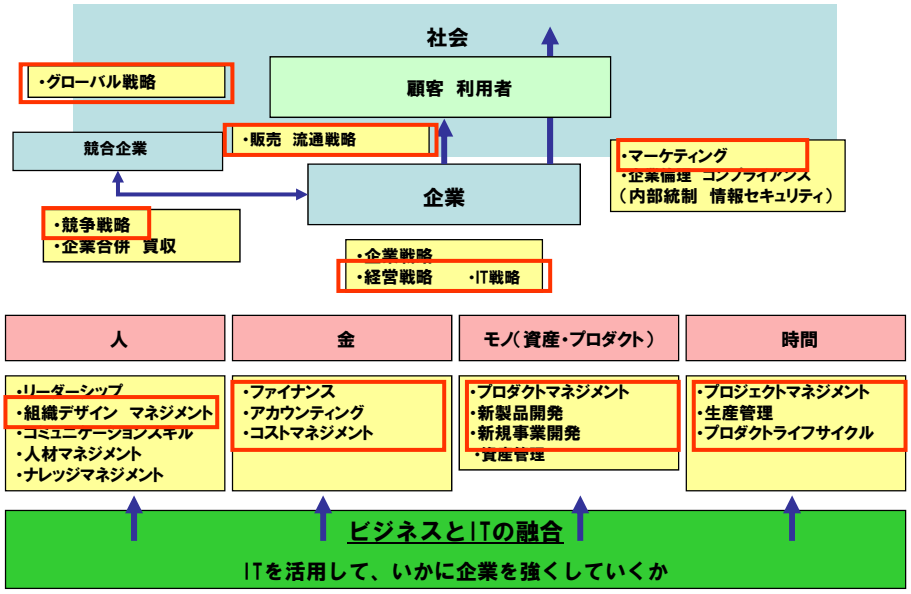


プロジェクトにおける戦略思考プロセス（例）



全社戦略	指標
経費削減	1～2%
在庫量削減	15%
成長・売上・利益	安定的に向上
優先領域	課題
味と風味	ブランド、新製品
レストラン	新製品
北米	製造ネットワーク整理 サービス向上
プロモーション	キャンペーン
調達	購買活動の電子化 （5億ドル、35%）

インターネットビジネス教育より得たもの



今後のインターネットビジネス教育について

ABS独自のインターネットビジネス教育として期待すること

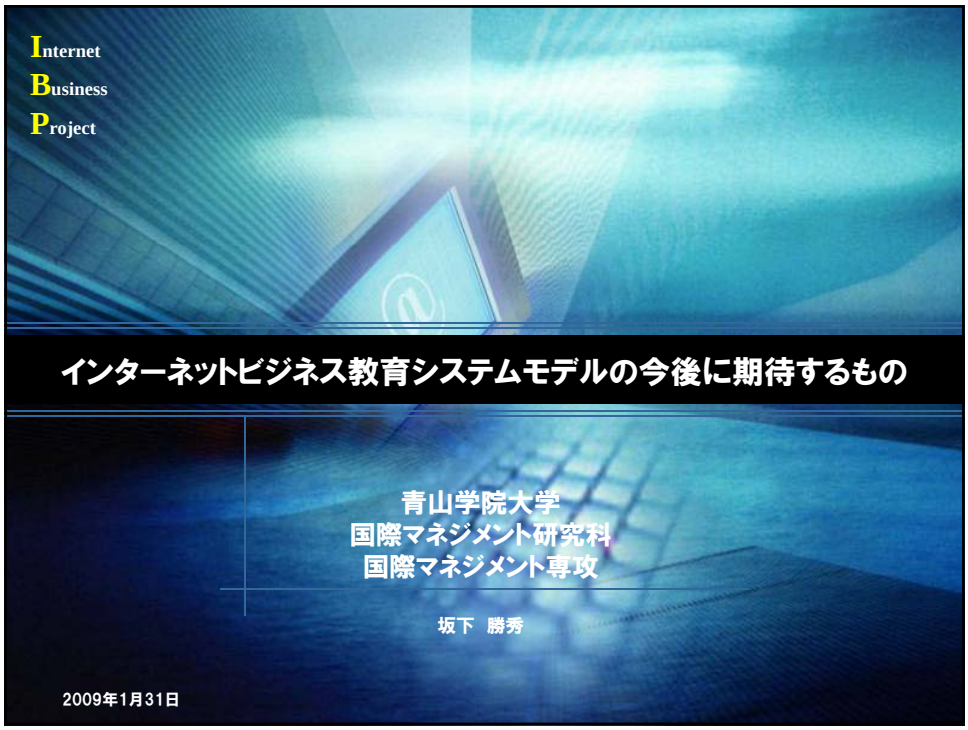
- 「ITを活用していかに企業を強くしていくか、経営課題を解決するか」をスタッフレベルの視点ではなく、経営レベルの観点で考えられる人材の育成

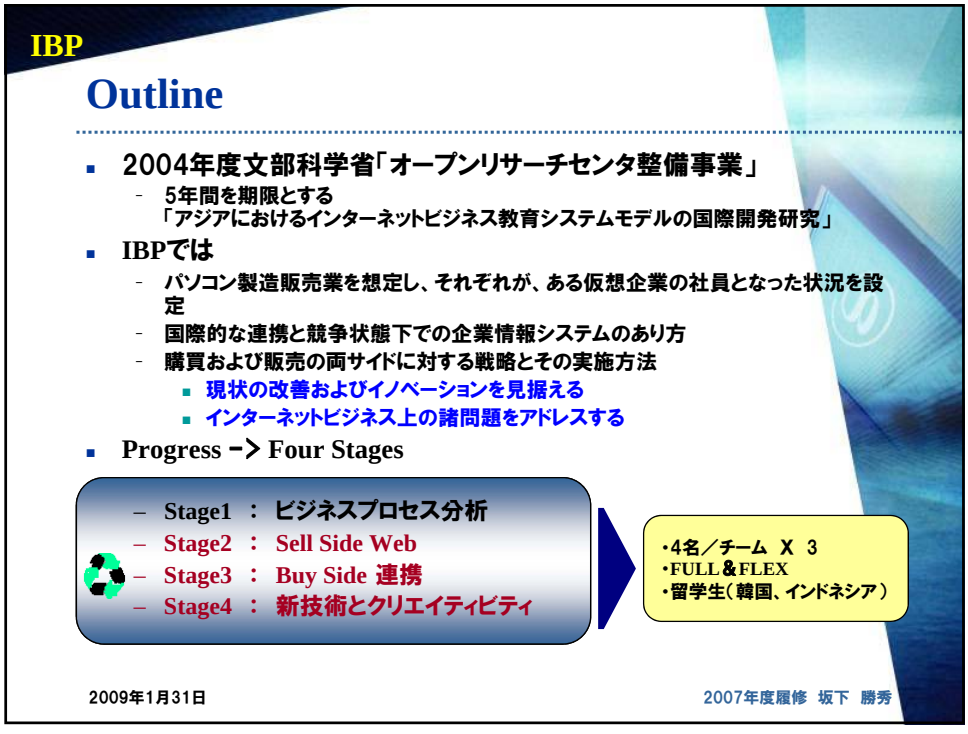
  →CIO、CEO人材の育成

・企業向けITシステムの俯瞰的な知識

システム開発・構築、通信ネットワーク、基幹系システム、情報系アプリケーション、システム運用管理など、経営者として身に付けるべき概観的なシステム理解

・ITシステムの導入から運用成功までの俯瞰的な知識


Internet
Business
Project
インターネットビジネス教育システムモデルの今後に期待するもの
青山学院大学
国際マネジメント研究科
国際マネジメント専攻
坂下　勝秀
2009年1月31日


IBP
Outline
2004年度文部科学省「オープンリサーチセンタ整備事業」
5年間を期限とする
「アジアにおけるインターネットビジネス教育システムモデルの国際開発研究」
IBPでは
パソコン製造販売業を想定し、それぞれが、ある仮想企業の社員となった状況を設定
国際的な連携と競争状態下での企業情報システムのあり方
購買および販売の両サイドに対する戦略とその実施方法
現状の改善およびイノベーションを見据える
インターネットビジネス上の諸問題をアドレスする
Progress -> Four Stages
Stage1 ： ビジネスプロセス分析
Stage2 ： Sell Side Web
Stage3 ： Buy Side 連携
Stage4 ： 新技術とクリエイティビティ
・4名／チーム X 3
・FULL＆FLEX
・留学生（韓国、インドネシア）
2009年1月31日
2007年度履修 坂下 勝秀

IBP

Stage1 ビジネスプロセス分析

- **主な内容**
  - 経営的な特質と実績、環境、情報システムの現状把握
  - As-IsからTo-Beへ
- **良かった点**
  - 現状分析、改善提案を考察するには、下記視点が必須であり、OISを含む他授業で習得した知識や知見を生かすことができた。
    - 経営者の視点
    - CIOの視点
    - 財務の視点
    - マーケティングの視点
  - グループ学習の特徴として、以下のことが有益だった。
    - 自己では気づかなかった視点の発見
    - 自分の考えを説明することによって、曖昧ではなく、明確な理解ができた
- **要望点**
  - 課題として「パソコン製造販売を想定」ということで、同一テーマで、3チームが異なるアプローチを行ったが、各チーム自由な発想での課題選択を行っても良いのでは。ただし、授業時間増が必須（週2回の授業・検討会）になる？
    - ビジネスモデルの創造
    - 物販に限らず、“サービス”の販売に着目

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Stage2 Sell Side Web

- **主な内容**
  - B2Cへの展開として、オンライン直販ショップの開設を意図して、パイロットシステム構築を含むプロジェクトを実施する。
  - osCommerceというオープンソースソフトウェアのテストを通して、実際的な機能について扱う。
- **良かった点**
  - オンライン直販ショップのサイトの設計を通じて、以下の知見を得られた。
    - オープンソースソフトウェアであるosCommerceに触れることによって、OSSに興味が湧き、仕事への適用も含め、自己スキルを高めることができた。
    - 他社競合サイトとの比較検討で、実業の数社について調査したが、改善すべき点が発見でき、コンテンツの重要性、サイト設計の重要性を強く認識できた。
    - マーケッティング戦略の重要性
- **要望点**
  - Stage4で学習したSEO/SEMを本Stageの前段で実施して欲しかった
    - SEO/SEMで学習したことを実際のプロジェクトに反映したかった。
    - SEO/SEM学習前のサイトと学習後のサイトの比較などをメンバーと議論する場が欲しかった。

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Stage3　Buy Side 連携

- 主な内容
  - 川上を意識した企業間連携、特に現状サプライチェーンの分析とそれに対する改善課題。
  - EDIとe-Marketplaceの実施を通した展開を体験し、企業間の情報共有アーキテクチャに関する困難さと利点について。
  - RFIDを利用したトレーサビリティについて。
- 良かった点
  - 講義内容が豊富
    - 企業間電子商取引
    - 事例分析＆デモ体験
    - Web-EDI
    - Web サービス
    - ビジネス・プロセス管理
    - RFID
  - 私自身は仕事と直結している分野であり、仕事の方向性の確認ができ有意義であった。
- 要望点
  - 内容が盛りだくさん、かつ前提知識を持ってない学生にはハードルが高いのでは

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Stage4　新技術とクリエイティビティ

- 主な内容
  - SEO/SEM
  - 具体的手法とその現状の調査、検索エンジンの実態について、Google、Yahooその他の実際を対象にし、所属する仮想企業の立場から具体策を立案する。
- 良かった点
  - インターネット検索を“される側”、“する側”の双方に役立つ技術であり、非常に有意義であった。
  - インターネットを利用したマーケッティング立案には必須の技術・手段と感じられた。
  - 井田先生のご尽力により、某サイトの実アクセスログを教材とすることができ、適用現場でのイメージを膨らませることができた。
- 要望点
  - Stage2で作成した「Web構築企画書」をSEO/SEM対策を取り入れてリバイスを行ったが、Stage2から時間が経過している、企画書への反映、ということで多少物足りなさが感じられた。前項で述べたように、順番を入れ替えることも考えていただけたらと思う。
  - SEO/SEMについては、300番台の科目の一つとして学ぶことができれば幸いです。

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IBP

To the End

- **本プロジェクトに対する感想**
  - 全体的に時間が足りなかった
    - 講義、プレゼン、質疑応答
    - 各自の思考・作業時間
    - IT Tool（osComerce、NetBeansなど）の習得
  - アクセス解析では実サイトデータを使っての分析ができ、非常に有意義であった
    - 今後は分析ツール（例えば、GoogleAnalystics）の活用という視点を盛り込めるのでは
  - グループ学習が示唆するもの
    - 異なる国籍、人格、感性を持つ数名が、「一つのものを創り上げる」ことの意義を再度考えさせられた

- **謝意**
  - 10ヶ月程度の短期間ではありましたが、貴重な経験・体験をさせていただきました。
  - 本カリキュラムを企画・実行くださった、また、教材を準備いただいた先生方に、また共に苦労を分かち合った同僚に深く感謝いたします。

2009年1月31日　　2007年度履修　坂下　勝秀

インターネットビジネス教育システムモデルの今後に期待するもの

株式会社チャイナ・プリンセス代表
林昭儀（2007年卒）

http://chinaprincess.jp/
http://princessdays.jp/

IBPで得たこと1（プロジェクト）

- プロジェクト1：パソコンの販売
  - 女性がネットショッピングのヘビー・ユーザー
  - 大量生産・画一的→個別化・差別化時代
- プロジェクト2：スキー場の復興
  - 経験価値
- 現在のビジネスへの応用（Keyword：等身大）
  - 女性ターゲット（自分の経験も 1）忙しい 2）計画性あり）
  - デザイン豊富、セミオーダー、フルオーダーメイド可能
- 服の販売ではなく・・・接客ポイント（ Keyword：エンタテーメント）
  - 楽しい買物タイム→癒される
  - 知識を得る一過程→成長

IBPで得たこと2（課題）

- 井田先生よりの課題
  1. よいHPとはどんなものか？----S社のHPを研究（インターン1ヶ月）
  2. SEOの研究----SEO会社にアルバイト4ヶ月
  3. 女性向けサイトの研究----I社の顧客になる＆インターン面接
  4. Web2.0----ロングテール現象

- 現在のHPへの応用
  1. 操作性（3クリック）、人間味、健全さのアピール
  2. SEO対策（タイトル・詳細・ヘッダー・フッター・リンク→例）
  3. 効能志向（恋に効く、Partyの主役）、メルマガ、BLOG、会員機能
  4. 1）サイト自体がユニークな存在である・・・ニッチ。
     2）メイン商品だけではなく、在庫0で置いておく。

この先期待すること1（Projectの本格化）

- ケーススタディで留まらず、本物志向
  - 企業とのタイアップを深める
    - 実際企業のマーケティング・ケースに参加
    - ケースの結果を追跡、2次分析＆発表
  - 最新のIT技術の知識を深める
    - 最新技術を駆使した実験HPの公開
    - 本物のアクセス履歴を得る
  - 実際にネットビジネスを立ち上げる
    - できたら・・・理想・・・青学発のITベンチャー（？）
    - 前田先生のBPPとタイアップ（？）

この先期待すること2（人間の繋がり）

- 卒業生のプロジェクト参加
  - 卒業しても最新のネット技術＆動態に触れる
  - 自分が苦労したこと＆後輩への助言
- 雰囲気が変われば・・・
  - 堅苦しい→楽しい
  - 効率優先よりも発想の重視？
  - 履修学生の多様化
  - 井田先生のPPT・・・(^^;)に期待・・・

まとめ

----本格的なプロジェクト×国際的な価値観----
（行動力＆包容力のある学生の育成）

インターネットビジネス教育システムモデルの今後に期待するもの

2008インターネットビジネスプランニングで得た成果

青山学院大学 国際マネジメント研究科
国際マネジメント専攻　秋山 武士

何故インターネットビジネスプランニングを学ぼうと思ったか

- 企業経営、運営をする上で、インターネットインフラを使っていくことは、避けて通れない。
- 販売、マーケティングのみならず、戦略的優位に立つためには、IT等のツールを使い、現状の問題点を洗い出して、オペレーションレベルに実行 展開していくことが必要であろう。
- 頭の固い経営陣への説明 (定量的に落とし込めるか)

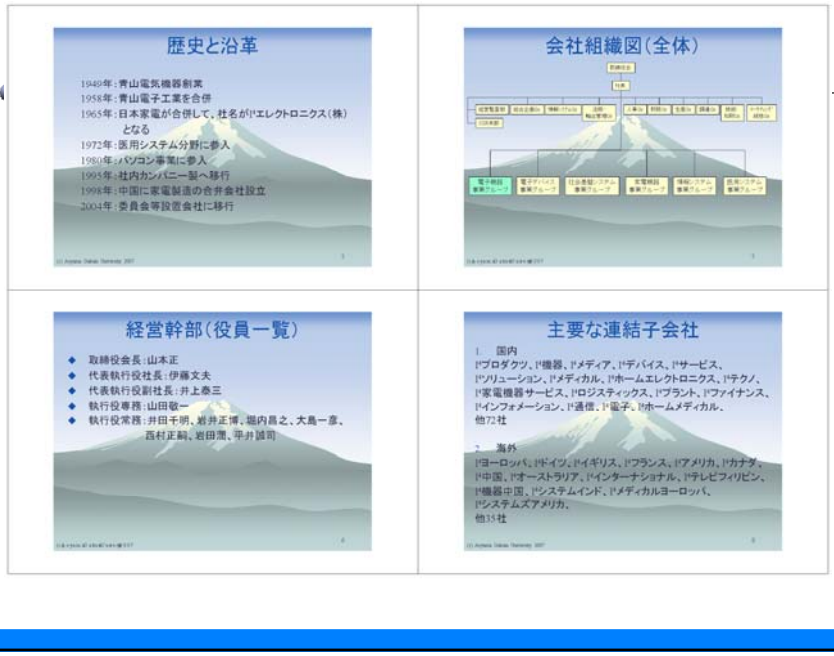
IBP2008　アウトライン

Stage1 ： ビジネスの現状認識と分析
仮想だが現実にありそうな会社I4エレクトロニクス社の
資料を元に問題点の徹底的な掘り下げ

Stage2 ： I4エレクトロニクス社 パソコン事業部の有るべき姿
事業計画プラン
B2C ビジネスへの展開　I4ECサイト立ち上げ

Stage3 ： 川上を意識した企業間連携
EDI（電子データ交換） e-marketplace　サプライチェーン

Stage4 ： SEO　SEMの実施
効果的なSEO （Search Engine Optimization）
SEM　（Search Engine Marketing)は??



	02年度	03年度	04年度	05年度	06年度
電子機器	1,506	1,658	1,607	1,779	2,029
電子デバイス	835	1,019	1,026	1,046	1,110
社会基盤システム	1,544	1,458	1,371	1,412	1,506
家庭電器	524	506	510	529	550
その他	387	393	378	297	303

競合他社比較

単位:十億円

	I[4]Electronics		東芝		日立製作所		三菱電機		日本電気		富士通		松下電器産業	
	'04/03	'05/03	'04/03	'05/03	'04/03	'05/03	'04/03	'05/03	'04/03	'05/03	'04/03	'05/03	'04/03	'05/03
流動資産	2,872	2,941	2,352	2,474	5,219	5,338	1,743	1,740	2,129	2,081	2,015	1,981	3,774	4,030
固定資産	2,565	2,577	2,109	2,097	4,370	4,397	1,481	1,422	1,914	1,859	1,850	1,658	3,663	4,026
資産合計	5,437	5,518	4,462	4,571	9,590	9,736	3,225	3,162	4,044	3,940	3,865	3,640	7,438	8,056
流動負債	2,242	2,255	2,199	2,266	3,911	4,064	1,315	1,227	1,742	1,661	1,718	1,481	2,569	2,828
固定負債	1,521	1,415	1,371	1,344	2,712	2,442	1,259	1,117	1,368	1,260	1,129	1,137	1,288	1,187
負債合計	3,764	3,678	3,571	3,611	6,623	6,507	2,575	2,395	3,111	2,922	2,847	2,619	3,858	4,016
株主資本	1,419	1,506	754	815	2,168	2,307	601	720	711	794	827	856	3,451	3,544
売上高	5,779	6,101	5,579	5,836	8,632	9,027	3,309	3,410	4,906	4,855	4,766	4,762	7,479	8,713
売上原価	4,281	4,525	4,075	4,296	6,710	6,961	2,508	2,559	3,622	3,646	3,460	3,512	5,313	6,176
販売費	1,334	1,383	1,329	1,384	1,737	1,786	708	730	1,101	1,077	1,155	1,090	1,971	2,229
営業利益	164	193	174	154	184	279	92	120	182	131	150	160	195	308
税引前利益	116	88	145	110	237	264	84	102	160	15	157	223	170	246
当期純利益	22	37	28	46	15	51	44	71	41	67	49	31	42	58

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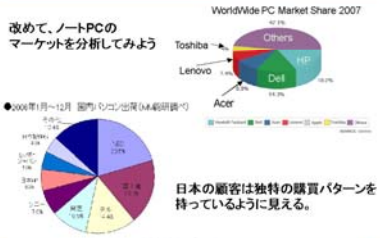
強み（Strength）	弱み（Weakness）
海外販売拠点も5拠点 (S1) 日本は、ハイエンドPC製造が強み 中国の製造コストの優位 (S2) 地域別にPCを投下できる (S3) マーケティング力が強い	社内ERP CRM SCMの不効率 売上利益率の低下 顧客ニーズにあったPCを作れない
機会 （Opportunity）	**脅威 （Thread）**
依然として成長マーケットである (O1) 新しい技術が実用ベースになっている (O2) 一般家庭へブロードバンドネットの普及	PCの価格下落傾向が続く (T1) 差別化を打ち出しにくい環境

改めて、ノートPCの
マーケットを分析してみよう

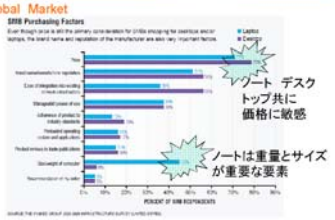


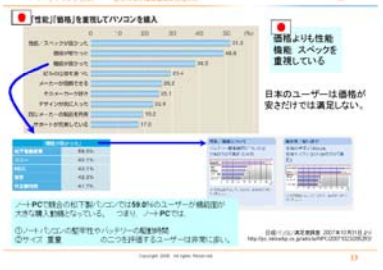
日本の顧客は独特の購買パターンを
持っているように見える。

SWOT分析により、I4の強み 弱みを踏まえ
我々が考えるI4の新戦略とは

- ノートPCに集中・特化しグローバルマーケットで販売する戦略に転換。
- 日本では顧客ニーズを捉えた高付価値商品海外はDell, HPと互角に戦える廉価版ノートPCを投入していく。
- ノートPCの差別化を常に模索し、低価格競争からの脱却。新規マーケットを創造していく。

Global Market





他社が模倣しにくいノートPCの製品差別化戦略は、
I4にできないのだろうか?

否 差別化はできる

量産に乗っていないSSDの先行市場投入によるマーケット創出

I4がSSDのマーケットリーダーになる！

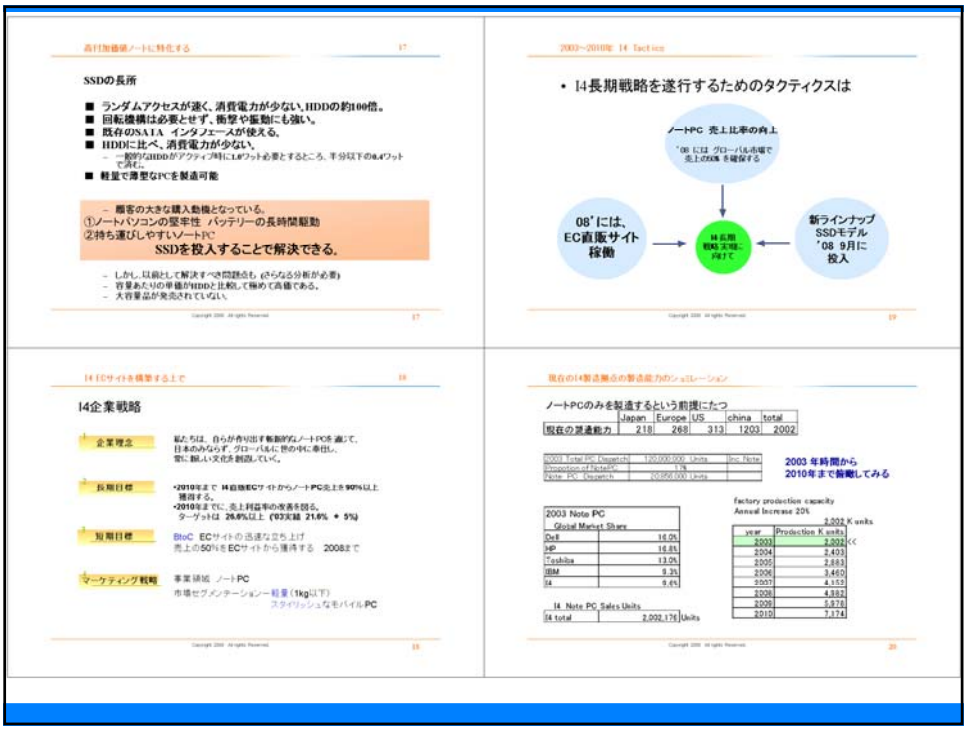
顧客が求めるノートPC

	日本	グローバル
低価格	△	◎
持ち運び	◎	◎
堅牢性	◎	△
バッテリー駆動時間	◎	△

グローバルと日本は明らかに異質な顧客ニーズをもっている。
このニーズを素早く察知して、販売に展開するには？

SSD（Solid State Drive）を 早期にI4ノートPCに投入すれば、顧客ニーズに合致したノートPCで差別化 先行者優位に立てると考えます。

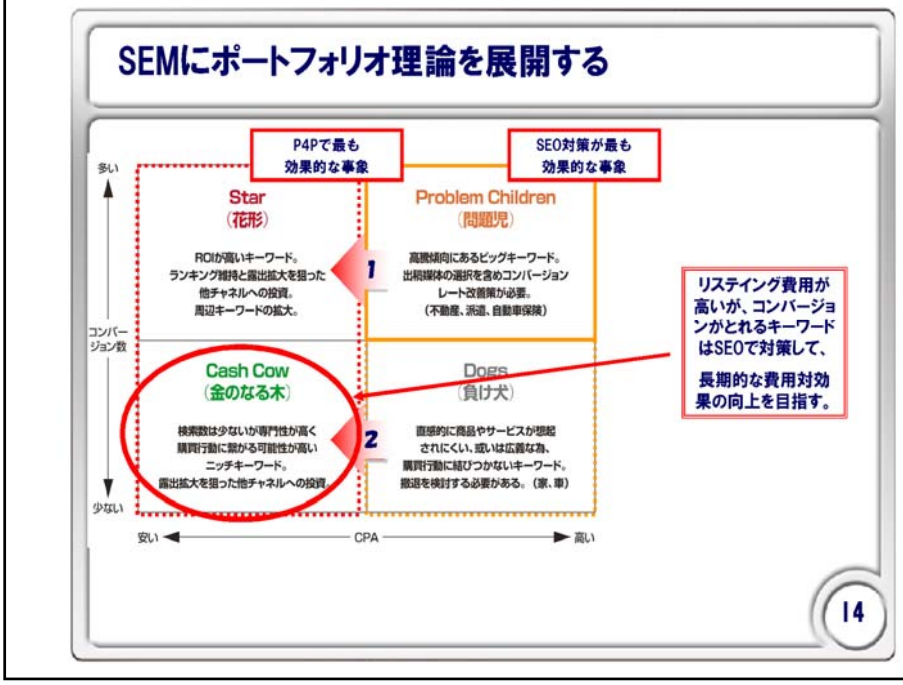
サンディスク製のSSDの内容

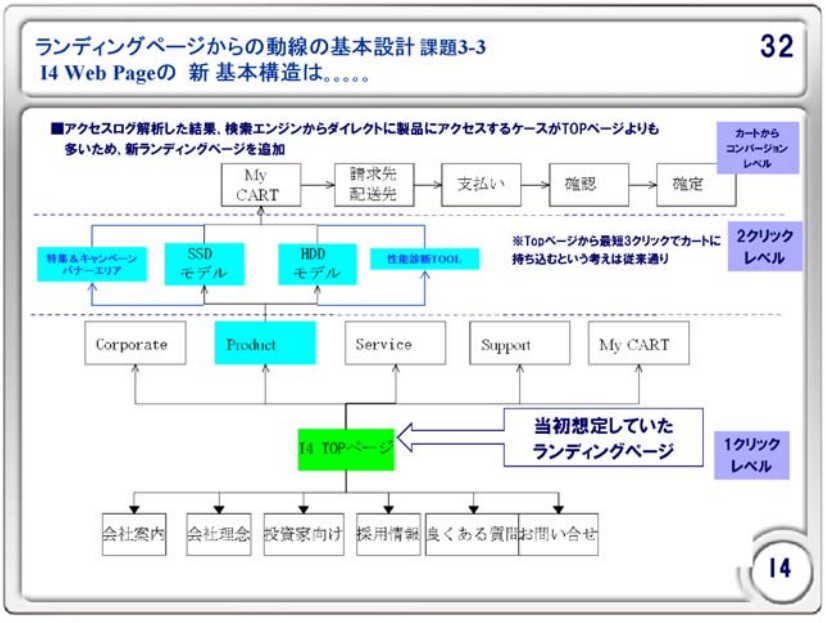


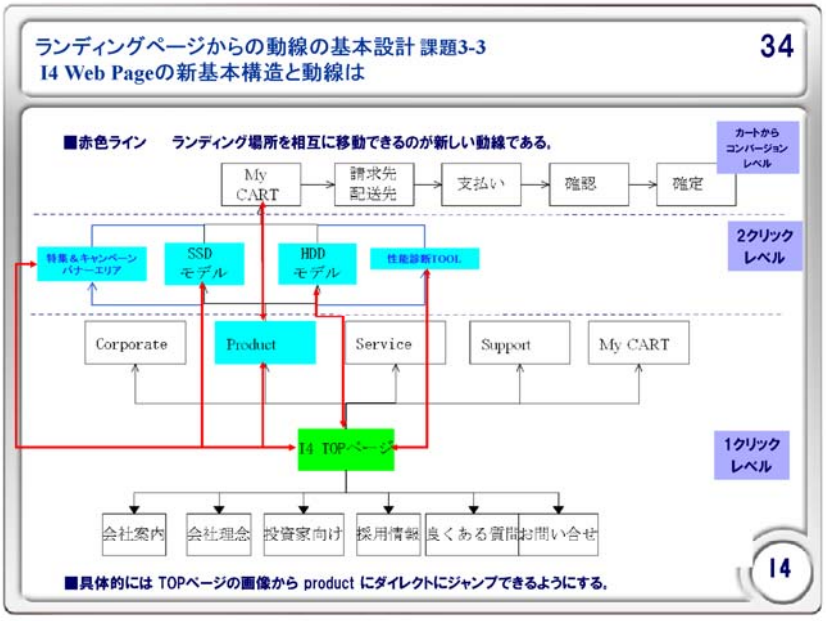
http://www.cpnic.co.jp/i4/index.html

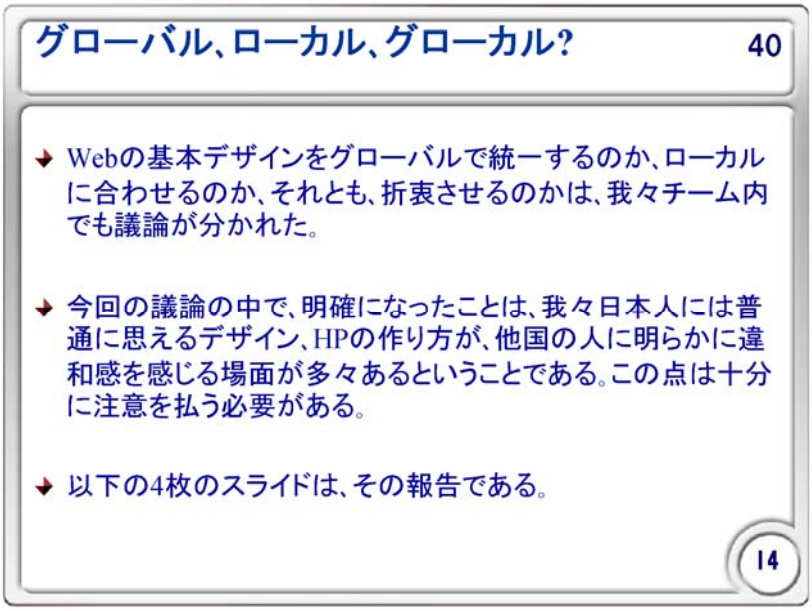
当初想定していた
ランディングページはこの
TOPページである。

実際には、このトップページ
以外からの入口が見受け
られる。 要改善


SEMにポートフォリオ理論を展開する
P4Pで最も
効果的な事象
SEO対策が最も
効果的な事象
多い
コンバージョン数
少ない
Star
（花形）
ROIが高いキーワード。
ランキング維持と露出拡大を狙った
他チャネルへの投資。
周辺キーワードの拡大。
1
Problem Children
（問題児）
高騰傾向にあるビッグキーワード。
出稿媒体の選択を含めコンバージョン
レート改善策が必要。
（不動産、派遣、自動車保険）
Cash Cow
（金のなる木）
検索数は少ないが専門性が高く
購買行動に繋がる可能性が高い
ニッチキーワード。
露出拡大を狙った他チャネルへの投資。
2
Dogs
（負け犬）
直感的に商品やサービスが想起
されにくい、或いは広義な為、
購買行動に結びつかないキーワード。
撤退を検討する必要がある。（家、車）
リスティング費用が
高いが、コンバージョンがとれるキーワード
はSEOで対策して、
長期的な費用対効果の向上を目指す。
安い
CPA
高い
14

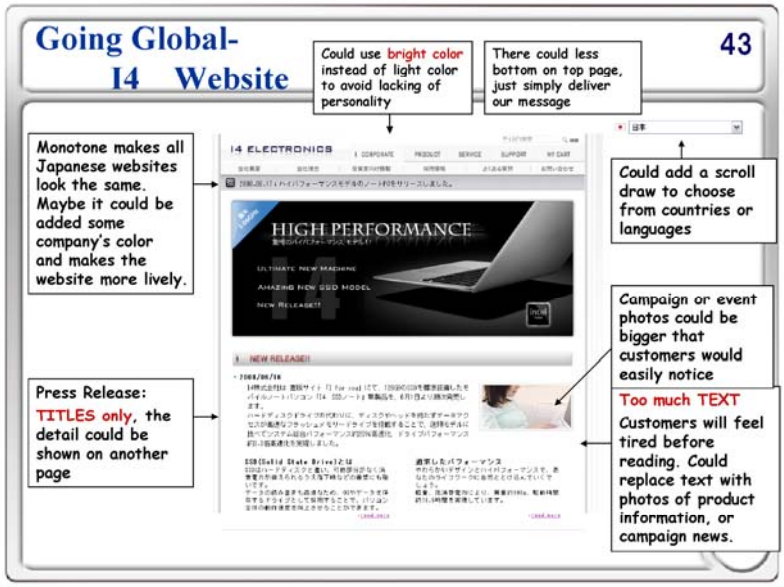

ランディングページからの動線の基本設計 課題3-3
32
I4 Web Pageの 新 基本構造は。。。。
■アクセスログ解析した結果、検索エンジンからダイレクトに製品にアクセスするケースがTOPページよりも
多いため、新ランディングページを追加
カートから
コンバージョン
レベル
My
CART
請求先
配送先
支払い
確認
確定
特集＆キャンペーン
バナーエリア
SSD
モデル
HDD
モデル
性能診断TOOL
※Topページから最短3クリックでカートに
持ち込むという考えは従来通り
2クリック
レベル
Corporate
Product
Service
Support
My CART
I4 TOPページ
当初想定していた
ランディングページ
1クリック
レベル
会社案内
会社理念
投資家向け
採用情報
良くある質問
お問い合せ
14

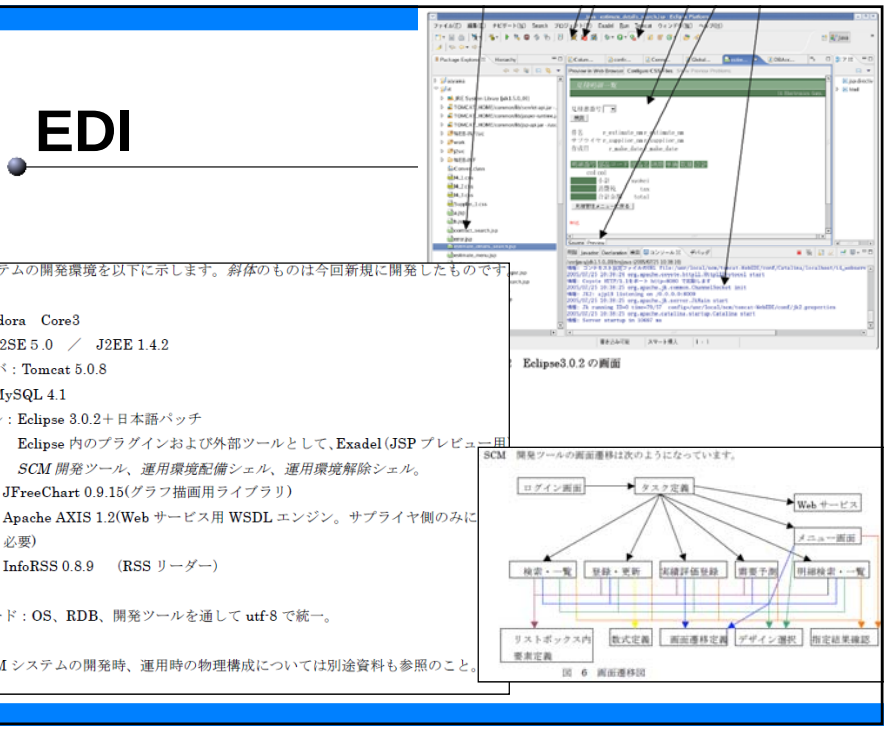

ランディングページからの動線の基本設計 課題3-3
I4 Web Pageの新基本構造と動線は
34
■赤色ライン　ランディング場所を相互に移動できるのが新しい動線である。
My CART
請求先 配送先
支払い
確認
確定
カートからコンバージョンレベル
2クリックレベル
特集＆キャンペーンバナーエリア
SSD モデル
HDD モデル
性能診断TOOL
Corporate
Product
Service
Support
My CART
I4 TOPページ
1クリックレベル
会社案内
会社理念
投資家向け
採用情報
良くある質問
お問い合せ
■具体的には TOPページの画像から product にダイレクトにジャンプできるようにする。
14


グローバル、ローカル、グローカル?
40
Webの基本デザインをグローバルで統一するのか、ローカルに合わせるのか、それとも、折衷させるのかは、我々チーム内でも議論が分かれた。
今回の議論の中で、明確になったことは、我々日本人には普通に思えるデザイン、HPの作り方が、他国の人に明らかに違和感を感じる場面が多々あるということである。この点は十分に注意を払う必要がある。
以下の4枚のスライドは、その報告である。
14

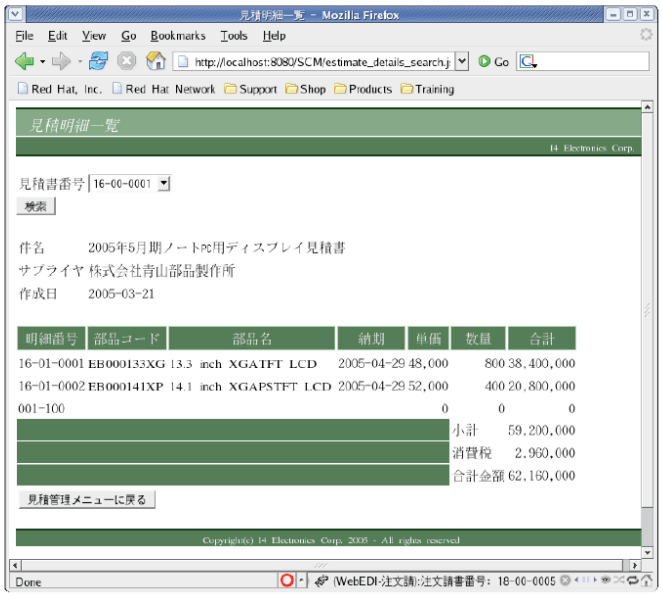

41
Sony Japan
· Always too much information.
· Don't really know where to look at in the first visit
· Monotone design is mainstream
· pedantically
Sony USA
· Categorized information, easy to choose from
· Colorful, lively
· Photos are more than text
· No scroll draw on top page
· Friendly
14


Comparison of Global Web Site & local Web -ACER
42
Acer Taiwan
Exactly the same design
Campaign Event
Promoting the newest model in the best place of top page
Awards
News, in the left top of page, if you want more information, press "read more", therefore, the layout is clean
Product Information
Acer USA


Going Global-
I4 Website
43
Could use bright color instead of light color to avoid lacking of personality
There could less bottom on top page, just simply deliver our message
Monotone makes all Japanese websites look the same. Maybe it could be added some company's color and makes the website more lively.
Could add a scroll draw to choose from countries or languages
Campaign or event photos could be bigger that customers would easily notice
Too much TEXT
Customers will feel tired before reading. Could replace text with photos of product information, or campaign news.
Press Release:
TITLES only, the detail could be shown on another page
HIGH PERFORMANCE


EDI
SCM システムの開発環境を以下に示します。斜体のものは今回新規に開発したものです。
OS： Fedora Core3
Java： J2SE 5.0 ／ J2EE 1.4.2
Web サーバ：Tomcat 5.0.8
RDB： MySQL 4.1
開発ツール：Eclipse 3.0.2＋日本語パッチ
Eclipse 内のプラグインおよび外部ツールとして、Exadel (JSP プレビュー用
SCM 開発ツール、運用環境配備シェル、運用環境解除シェル。
その他： JFreeChart 0.9.15(グラフ描画用ライブラリ)
Apache AXIS 1.2(Web サービス用 WSDL エンジン。サプライヤ側のみに
必要)
InfoRSS 0.8.9 (RSS リーダー)
日本語コード：OS、RDB、開発ツールを通して utf-8 で統一。
なお、SCM システムの開発時、運用時の物理構成については別途資料も参照のこと。
Eclipse3.0.2 の画面
SCM 開発ツールの画面遷移は次のようになっています。
ログイン画面
タスク定義
Web サービス
メニュー画面
検索・一覧
登録・更新
図 6 画面遷移図

１２．５．明細検索・一覧



IBPを通じて得られたもの

■基本的な物事の考え方

「私は、こう思う」「それはこういう考えだからだ」「その考えに対する反論への反駁」「ロジックの再構築」

■実社会でも必要とされる

- 各プロジェクトを取りまとるということ
- 意見の違う考えの摺り合わせ
- 粘り強くディスカッションしていく忍耐力
- ゼロから新しいモノを作り出していく姿勢

IBPを通じて得られたもの

■これが正解というものは存在しない。

■グローバルなモノの考え方　こじんまりとして、閉塞している日本からの脱却

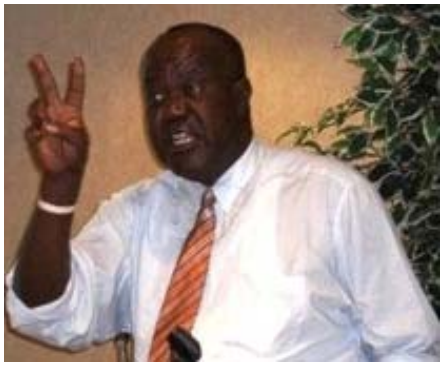
■いくつかの仮説を立て、それを自分なりに検証し、フレームワークやロジックを展開して、迅速に結論 70% を持って行く。

これらが、まさにMBA的視点 思考を養うこと

今後 期待するもの

- 学生の中に明確な目標を持っている人がいる。
  - 実際にECサイトを展開したい。
- 理論を元に、実践をする。
- 企業間連携部分　EDIプラットフォーム
  - ABSから提案　発信
  - 機械メーカーの仕入発注業務の標準化

iBiZ2008 Workshop for Net Business Ethics, February 10 and 11, 2008, Honolulu



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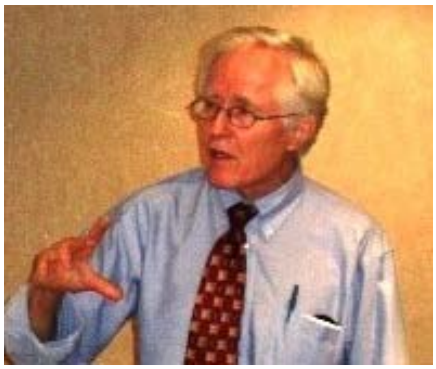

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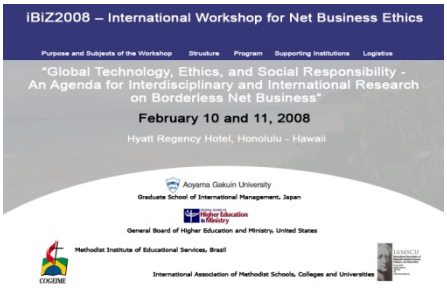
The General Board of Higher Education and Ministry



iBiZ2008 ポスター

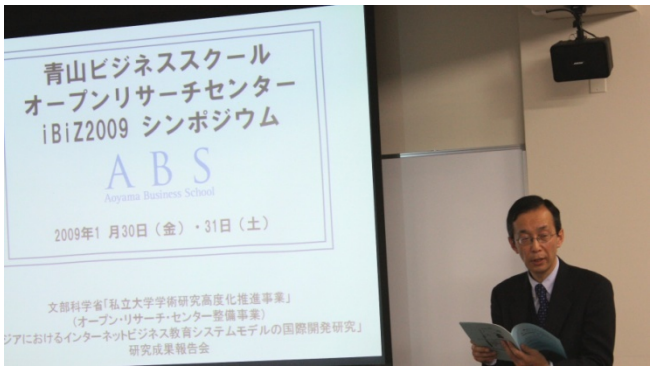
発表の様子

懇談の様子

会場の様子

参加者一同

iBiZ2009 Symposium, January 30-31, 2009, at Aoyama Gakuin University



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iBiZ2009 Symposium, January 30-31, 2009, at Aoyama Gakuin University

会場の様子(1)

会場の様子(2)

会場の様子(3)

懇親会の様子(1)

懇親会の様子(2)

セッション5終了時の参加者集合写真

iBiZ2009 Symposium, January 30-31, 2009, at Aoyama Gakuin University

パネル討論
（左から、司会　岩井千明教授、小宮氏、林氏、秋山氏、坂下氏）

仮想商店街における
ショッピングに関する研究成果

Engage! Expo - March 10-11, 2009 - NYC (formerly Virtual Worlds 2009)

Engage Expo より

Engage Expo より

オープンリサーチセンター整備事業
「アジアにおけるインターネットビジネス教育システムモデルの国際開発研究」最終報告書

発行日：2009 年 3 月
発行者：青山学院大学大学院　国際マネジメント研究科
〒150-8366　東京都渋谷区渋谷 4-4-25
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