TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

School of Information Management

INFO 409: IT, INNOVATION, VALUE & PRODUCTIVITY

Trimester 1, 2016

COURSE OUTLINE

Prescription
An examination of the linkages between IT and innovation, value and productivity in organizations and society. Topics include research on IT value at the industry, organizational, and group levels of analysis; research on the diffusion of IT innovation; and research on the creation of new IT-driven business models.

Course Learning Objectives
By the end of this course, students should understand and be able to apply current and emerging research knowledge about:

1. The relationship between IT investments and productivity (all weeks)
2. The influence of IT on innovation outcomes and how to foster innovation (week 1-7)
3. The role of IT as a resource for industries, firms, and groups (weeks 2-3, 6-7, 9)
4. The processes driving the evolution of IT and the emergence of disruptive IT (week 4 & 5)
5. The processes by which a novel IT (does not) diffuse(s) across social networks (week 8)
6. How IT is involved with changing how people work in organizations (week 10)
7. The role of IT in enabling business models and organizational processes that are financially, socially and environmentally sustainable (weeks 2-3, & 6).

The course objectives include the Faculty learning objectives (FCA-LG) which are the development of literature research (LG1), research/analytical skills (LG2), discipline specific skills (LG3), communication skills (LG4), and leadership skills (LG5). Selected Faculty learning objectives will be assessed along with the following specific outcomes based on the statutory statement of course learning objectives above.

Course Content
Over the past 40 years, Information Technology (IT) has brought about profound changes, affecting individuals, organizations, and society in general. The effect of IT is obvious in the acceleration of the globalization of markets, in the transformation of social and commercial relationships, as well as in the emergence of new sources of information and competitiveness. Our notions of time and space, as well as our understanding of what is physical and what is information, have changed.

IT is now ubiquitous. There is a convergence of telephony, computing, networks and applications that challenges the traditional industrial and firm boundaries. IT has had a major impact on all types of innovation, but they often require new perspectives on business models to take full advantage of their potential. This is why it is essential to understand how consumers, industries,

firms, and governments shape the adoption of IT and ultimately the value that can be derived from its use.

The appropriate use of IT to generate economic prosperity and welfare is always difficult to determine. This course will explore current theories about the use of IT to generate innovation and value for industries, firms and groups. It will also provide frameworks to understand the diffusion of IT innovation across a population of firms over time and to distinguish faddish technologies from truly disruptive technologies. This course adopts a holistic perspective on IT value and assumes that IT value is not strictly limited to financial outcomes.

Lecture	Date	Lecturer	Topic	Deliverable
1	3 March	Chris & JG	Introduction: IT, Innovation, Value & Productivity	
2	10 March	JG	Innovation & Platform Competition	
3	17 March	Chris	Innovation in a Digital Business: iQMetrix case	
	Easter Break			
4	31 March	JG	Evolutionary Processes of IT Innovation	
5	7 April	JG	Disruptive Innovation	
6	14 April	Chris	Digital Business Models	
7	21 April	Chris	Managing Digital Product Development: OPower case	
	Mid-Trim. Break			
8	5 May	JG	The Diffusion of IT Innovation: Blackberry case	Ind. Essay
9	12 May	Chris	Cloud Computing and the 'Buy-Lease-Build' Decision	
10	19 May	Chris & JG	Future Trends: Employee-provided infrastructure, Intel Corp case	
11	26 May	Chris & JG	Innovation Presentations	Innovation Presentations
12	2 June	Chris & JG	Oral test, by appointment.	Oral test

Trimester Dates
Teaching Period: Monday 29 February – Friday 3 June

Withdrawal from Course
1.   Your fees will be refunded if you withdraw from this course on or before Friday 11 March 2016.

2.   The standard last date for withdrawal from this course is Friday 13 May 2016. After this date, students forced to withdraw by circumstances beyond their control must apply for permission on an '*Application for Associate Dean's Permission to Withdraw Late'* including supporting documentation. The application form is available from either of the Faculty's Student Customer Service Desks or online.

Names and Contact Details

Course Coordinator	Name	Dr Jean-Grégoire Bernard
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	Office hours	By appointment
Visiting Professor	Name	Associate Professor Chris Street
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	Office hours	By appointment

Class Times and Room Numbers
Classes will be from 13:40pm – 16:30pm on Thursdays in RWW221

Course Delivery
A series of seminars where the weekly readings will act as the basis of discussions and collective analysis of managerial dilemmas will act as the foundation for the course. You will be actively involved in informal case studies, class exercises, and informal group presentations. These class exercises and presentations will not contribute to course grades (except from the one stated in the assessment requirements section below). These activities will foster deeper involvement and understanding of the themes and concepts addressed in the lectures.

Readings
Please note that changes might be made to this schedule as the trimester progress. Changes will be communicated in class if necessary – *Blackboard will contain the official, final reading list for this course*. You will need to purchase the following book from VicBooks or an online retailer of your choice (cost varies between $25 and $31):

McNish, J., Silcoff, S. (2015). *Losing the Signal: The Spectacular Rise and Fall of Blackberry*. Toronto, Canada: Harper Collins Publishers. ISBN: 9781847941725 (paperback ed.)

You will also have to purchase two cases (OPower and Intel) on the Harvard Business School Publishing portal at the cost of about $7 each. Instructions will be provided in class.

We expect you to read the required readings before each class and to have done the informal exercises if any were assigned for the class. You are expected to download the readings by using the appropriate library databases that are listed on Blackboard. Supplementary readings will also be listed on 'Blackboard' for your own curiosity.

Class	Topic	Required readings and preparation (*INDICATIVE* - final, official list is found on Blackboard)
Week 1 3/3	Introduction: IT, Innovation, Value & Productivity	– Andreessen, M. (2011). Why software is eating the world. *Wall Street Journal*. – Brynjolfsson, E. (2010). The Four Ways IT is Revolutionizing Innovation. *MIT Sloan Management Review, 51*(3), 51-56. – Brynjolfsson, E., McAfee, A. (2012). Winning the race with ever-smarter machines. *MIT Sloan Management Review, 53*(2), 53-60.
Week 2 10/3	Innovation and Platform Competition	– Porter, M.E., Heppelmann, J.E. (2014). How Smart Connected Products Are Transforming Competition. *Harvard Business Review, 92*(11), 64-88. – Iansiti, M., Lakhani, K.R., (2014). Digital Ubiquity: How Connections, Sensors, and Data are Revolutionizing Business. *Harvard Business Review, 92*(11), 91-99. – Edelman, B. (2015). How to Launch Your Digital Platform: A Playbook for Strategists. *Harvard Business Review, 93*(4), 91-97.
Week 3 17/3	Innovation in a Digital Business: iQMetrix case	– Elizalder, D. (2014, June 18). The Business of APIs: What Product Managers Need to Plan For. *TechProductManagement.com*. URL: http://techproductmanagement.com/the-business-of-apis-what-product-managers-need-to-plan-for/ – Benlian, A., Hilkert, D., & Hess, T. (2015). How open is this platform? the meaning and measurement of platform openness from the complementors' perspective. *Journal of Information Technology, 30*(3), 209-228. – Case: iQMetrix: The Customer Is Always Right? (on Blackboard)
Break		

Week 4 31/3	Evolutionary Processes of IT Innovation	– Shane, S.A. (2009). Technology Evolution. In *Technology Strategy for Managers and Entrepreneurs*. Prentice Hall. – Sood, A., Tellis, G.J. (2005). Technological Evolution and Radical Innovation. *Journal of Marketing, 69*(3), 152-168. – Cases (on Blackboard)
Week 5 7/4	Disruptive Innovation	– Christensen, C.M. (1997). Introduction. In *The Innovator's Dilemma*. Cambridge, MA: Harvard Business School Press, p.ix-xxiv. – Christensen, C.M., Raynor, M., & McDonald, R. (2015, December). What is Disruptive Innovation? *Harvard Business Review,* 45-53. – King, A.A., Baatartogtokh, B. (2015). How Useful is the Theory of Disruptive Innovation? *MIT Sloan Management, 57*(1), 77-90.
Week 6 14/4	Digital Business Models	– Weill, P., Woerner, S.L. (2015). Thriving in an increasingly digital ecosystem. *MIT Sloan Management Review, 56*(4), 27-34. – Kohler, T. (2015). Crowdsourcing-based business models: How to create and capture value. *California Management Review, 57*(4), 63-84. – Stuart, T., Anderson, C. (2015). 3D Robotics: Disrupting the drone market. *California Management Review, 57*(2), 91-112.
Week 7 21/4	Managing Digital Product Development: OPower case	– Henfridsson, O., Mathiassen, L., & Svahn, F. (2014). Managing technological change in the digital age: the role of architectural frames. *Journal of Information Technology, 29*(1), 27-43. – Nylén, D., & Holmström, J. (2015). Digital innovation strategy: A framework for diagnosing and improving digital product and service innovation. *Business Horizons, 58*(1), 57-67. – Case: OPower (available on the Harvard Business School Publishing portal)
Break		

Week 8 5/5	The Diffusion of IT Innovation: Blackberry case	– Rogers, E. M. (1995). Elements of Diffusion. Chapter 1 of *Diffusion of Innovations* (4th ed.). New York, NY: Free Press. – Moore, G.A. (2004). Darwin and the Demon: Innovating within established enterprises. *Harvard Business Review, 82*(7/8), 86-92. – McNish, J., Silcoff, S. (2015). *Losing the Signal: The Spectacular Rise and Fall of Blackberry*. Toronto, Canada: Harper Collins Publishers. ISBN: 9781847941725 (paperback ed.) **Individual assignment (essay) due.**
Week 9 12/5	Cloud Computing and 'Buy-Lease-Build' Decision	– Boillat, T., & Legner, C. (2013). From on-premise software to cloud services: the impact of cloud computing on enterprise software vendors' business models. *Journal of Theoretical and Applied Electronic Commerce Research, 8*(3), 39-58. – McAfee, A. (2011). What every CEO needs to know about the cloud. *Harvard Business Review, 89*(11), 124-132. – Kaganer, E., Carmel, E., Hirschheim, R., & Olsen, T. (2013). Managing the human cloud. *MIT Sloan Management Review, 54*(2), 23-32
Week 10 19/5	Future Trends: Employee-provided Infrastructure	– Budak, J. (2012, May 1). Should you bring your own mobile device to work? *Canadian Business*. URL: http://www.canadianbusiness.com/lifestyle/should-you-bring-your-own-mobile-device-to-work/ – Kaneshige, T. (2012, April 4). BYOD: If you think you're saving money, think again. *CIO Magazine*. URL: http://www.cio.com/article/2397529/consumer-technology/byod--if-you-think-you-re-saving-money--think-again.html – Crossler, R.E., Long, J.H., Loraas, T.M., & Trinkle, B.S (2014). Understanding compliance with bring your own device policies utilizing protection motivation theory: Bridging the intention-behavior gap. *Journal of Information Systems, 28*(1), 209-226. – Case: Intel Corp. - Bring Your Own Device. (available on the Harvard Business School Publishing portal)
Week 11 26/5	Innovation Presentations	– No readings.
Week 12 2/6		**End of term oral test, scheduled by appointment.**

Mandatory Course Requirements

An attendance register will be kept, however there will be no penalty for non-attendance. To pass the course, you must gain a weighted average of 50% across all assessments. Students are expected to attend all classes and to submit all assignments.

If you are unable to sit a quiz or submit an assignment due to illness, a medical certificate should be submitted to the Course Coordinator, immediately after return to university. Absence from a quiz or non-submission of assignments for other reasons should be discussed with the Course Coordinator, preferably in advance. Failure to meet mandatory requirements does not prevent a student from completing other pieces of assessment.

If you cannot complete an assignment or sit a test or examination, refer to
www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat

Expected Workload

Students are expected to work on average 150 hours for this course. The following breakdown reflects the course structure:

- Attending lectures: 33 hours
- Preparing for lectures (reading the material and preparing notes): 60 hours
- Writing individual assignments (5): 32 hours
- Writing team assignment: 15 hours
- Preparing presentation: 10 hours

Assessment

Items		*Due date*
4 Quizzes – Individual (3% each)	12%	4 lectures, at random between w2 and w10.
4 Quizzes – Team (2% each)	8%	4 lectures, at random between w2 and w10.
Ind. assignment: Essay	30%	May 5th.
Team Innovation Presentation	15%	May 26th.
End of term oral test	35%	June 2nd, by appointment.
Total	100%	

The Faculty learning goals for BCom(Hons) targeted by each assessment is indicated in parentheses for each assessment item. The Assessment Handbook will apply to all VUW courses: see
http://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf.

Quizzes - Individual and team (LG2 to LG3)

There will be 4 *random* quizzes during the trimester (week 2 to 10). The quizzes will consist of 8 or less multiple-choice questions that will assess whether you have a sound understanding of the key concepts from the required readings for that week. The questions will focus on foundational concepts, not picky details, and are meant to assess your readiness to discuss the week's topic. The quizzes will be completed in a two steps fashion. At the beginning of the class, the quizzes are completed individually. Once the individual quizzes are completed, you will retake the same quizzes, but this time as a team of 3 students and the team must reach agreement on the answers to each quiz question. The teams will be formed on a random basis at the beginning of each quiz sessions. The individual quizzes are worth 3% each and the team quizzes are worth 2% each. If you are absent without appropriate justification when the readiness assurance process takes place (e.g. official medical note sent to the lecturer before the beginning of class), you will obtain a mark of 0 for both the individual and the team quizzes in that given week.

Individual assignment: Theory-building essay (LG1 to LG3)
For this exercise, you will write an essay that explains a puzzling aspect of an IT innovation or an IT-enabled business model. Your essay should be of no more than 3000 words, but no less than 2000 words (excluding figures and tables). Detailed instructions on how to write your short essay will be communicated in class on April 2nd. An electronic copy of the essay is due on May 14th before the class, by email as a PDF attachment.

Team IT innovation presentation (LG1 to LG4)
You will select one novel and high-impact case from a company based in Wellington. You will conduct further research and analysis and develop an in-depth case study. You are encouraged to contact the organization in order to conduct a few interviews and visit the organization's offices so you can generate a "thick" description. You are encouraged to use video footage as part of your oral presentation, if the company allows you to record the interviews. You may prepare the report as teams of two students based on your shared interests (e.g. in the specific technologies, industries, or market spaces). A short proposal (not assessed) should be prepared at the beginning of the project (May 5 at the latest). Your final innovation report will be presented in class on week 11 and you will have to submit your presentation slides deck. Further instructions on how to elaborate the innovation report will be communicated in class.

End-Term Oral Test (LG1 to LG4)
Further details regarding the test will be advised in class closer to the date. Students are obliged to be present at university until the end of the examination period.

Grading Standards

Pass/fail	Grade	Normal range	Midpoint	Indicative characterisation
Pass	A+	90%–100%	95	Outstanding performance
	A	85%–89%	87	Excellent performance
	A-	80%–84%	82	Excellent performance in most respects
	B+	75%–79%	77	Very good performance
	B	70%–74%	72	Good performance
	B-	65%–69%	67	Good performance overall, but some weaknesses
	C+	60%–64%	62	Satisfactory to good performance
	C	55%–59%	57	Satisfactory performance
	C-	50%–54%	52	Adequate evidence of learning
Fail	D	40%–49%	45	Poor performance overall, some evidence of learning
	E	0–39%	20	Well below the standard required
	K			Fail due to not satisfying mandatory course requirements, even though the student's numerical course mark reached the level specified for a pass, usually 50%. A student whose course mark is below 50 should be given a D (40–49) or E (0–39), regardless of whether they met the mandatory course requirements.
Pass	P			Overall pass (for a course classified as Pass/Fail)
Fail	F			Fail (for a Pass/Fail course)

It is recognised that the distribution in a particular course, particularly with small enrolment, may differ markedly from the long-term distribution. To obtain a fair distribution of marks relative to assignment difficulty, scaling of marks may be employed on some or all assessments.

The lecturer will develop a more complete or specific description of the meaning of the various levels of performance based upon the specific nature of the assessment in a course. For example, performance may be determined by the qualities of a written report, a classroom presentation, or an examination. The words used to describe these kinds of assessments will obviously vary.

Examinations
There will be no examination for this course.

Penalties
In fairness to other students, assignment work submitted after the deadline will incur a 10% penalty for each actual day (prior to 9.30 am) late. In the event of bereavement or prolonged illness affecting your ability to meet the deadline, discuss your situation with the Course Co-ordinator. You must verify your claim, e.g., produce a medical certificate. In doing so, you consent to your supporting documentation being checked by the Course Co-ordinator. Extensions will only be granted under these conditions.

Important Notes:

- _No extension is possible based on a student's workload_. *You are expected to manage your workload to ensure there is sufficient time to complete assessments as required.*

- _You are expected to back up your work_ – *From time to time files are lost, computers crash, etc., so it is critical that you get into the habit of backing up important files.*

- _Do not leave submitting your work to the last minute_ – *Technology problems do occur (especially on the day an assessment is due). Be smart and submit it in plenty of time. Extensions will not be granted due to problems with submitting work.*

- _Working together_ – *All assessments in this course are individual assessments, unless they are explicitly identified as group assessments. You are encouraged to discuss aspects of your individual assessments with others. However, when it is time to _develop your solution_, **the work must be ENTIRELY your own**. In this way, we will have _your_ perspective on the topic - not someone else's!*

Group Work
The group work which will be marked as *Group Assessment* (in terms of par. 5.4, p.14, of the University's "Assessment Handbook 2013" as published on *http://www.vuw.ac.nz/home/about_victoria/publications.html#assessment*) consists of the following assessment item:

- The 2nd part of quizzes (4x 2%) is taken as a group; all members receive the same mark.
- The innovation report presentation in week 11 (15%). All group members will obtain the same mark. If a group member is absent on the day of the presentation, he or she will obtain a mark of 0 for the presentation but with no penalty to the other group members.
It is anticipated that participation in group work will not add more than 2 hours per assignment to the average workload, but may be particularly concentrated in the second half of the trimester (weeks 7-12).

Use of Turnitin
Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine http://www.turnitin.com Turnitin is an on-line plagiarism prevention tool which compares submitted work with a very large database of existing material. At the discretion of the Head of School, handwritten work may be copy-typed by the School and subject to checking by

Turnitin. Turnitin will retain a copy of submitted materials on behalf of the University for detection of future plagiarism, but access to the full text of submissions will not be made available to any other party.

Materials and Equipment
You will make extensive use of the University Library print and electronic resources to elaborate your vendor report (assignment #1) and request for proposal (assignment #2). As a starting point, among the relevant resources we find:
- Proquest
- LexisNexis
- Factiva
- Business Source Complete
- RDS Business Suite
- Index New Zealand
- NewztextPlus
- On the internet: CIO Magazine, ComputerWorld, InformationWeek, Baseline, and enterprise systems vendors' websites are good starters, but there are many others.

Student feedback
Improvements and changes based on previous student feedback will be communicated in class on week 1. Student feedback on University courses may be found at www.cad.vuw.ac.nz/feedback/feedback_display.php

Class Representative
A class representative will be elected in the first class, and that person's name and contact details made available to VUWSA, the course coordinator and the class. The class representative provides a communication channel to liaise with the course coordinator on behalf of students.

Communication of Additional Information
Additional information, or information on changes, will be announced in class or conveyed to students via Blackboard, email, or through the class representative.

Link to general information
For general information about course-related matters, go to http://www.victoria.ac.nz/vbs/studenthelp/general-course-information

Note to Students
Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning objectives as required for accreditation and academic audit. The findings may be used to inform changes aimed at improving the quality of VBS programmes. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the course.

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