

LEVEL 7 ASSESSMENT SPECIFICATION

Student name:	Hok Ming KWAN	Student ID number:	2031099
Programme:	DBA		
Module:	Approaches to Research and Academic Communication		
Module code:	HKBM7000	Contribution to Overall Module Assessment (%):	40%
Lecturer:	Dr. Luk Chung Leung	Internal Verifier:	
Assignment Title:	In-class Presentation	Time Allowed:	25 minutes
Submission deadline:	14 August 2021	Return date of provisional marks & written feedback:	13 September 2021
Submission method:	Each students needs to present to the class a summary of the research proposal within 20 minutes. The presentation is designed to gauge the student's ability to communicate and present information related to research and academic matters. A soft copy of the PowerPoint slides used for the presentation should also be submitted via Turnitin before the presentation.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

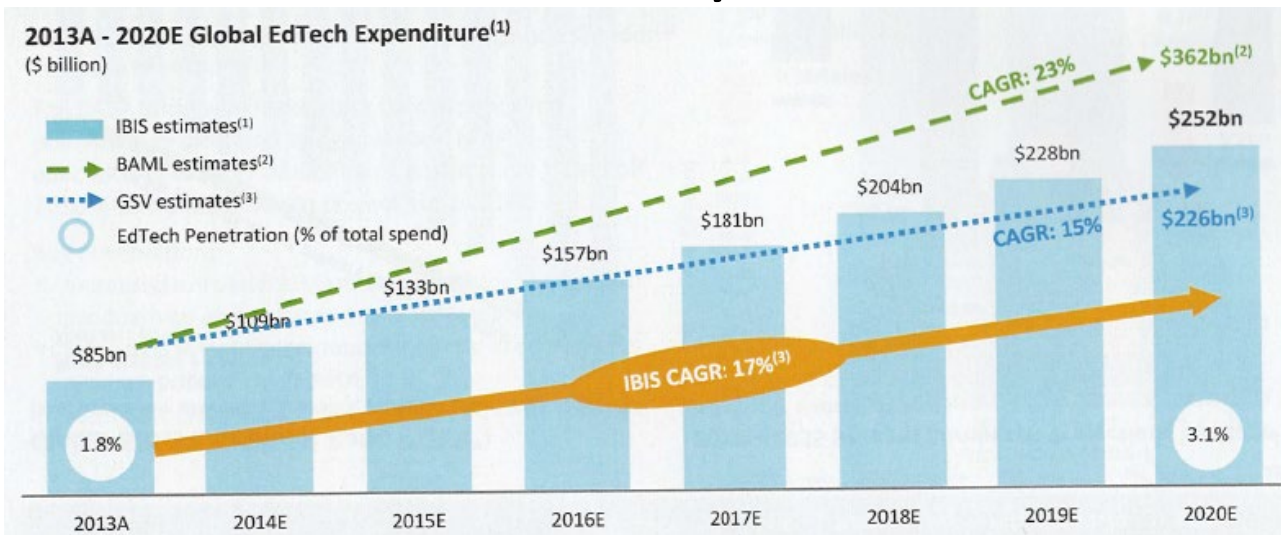
HKBM7000 – Approaches to Research and Academic Communication

Research Proposal Presentation

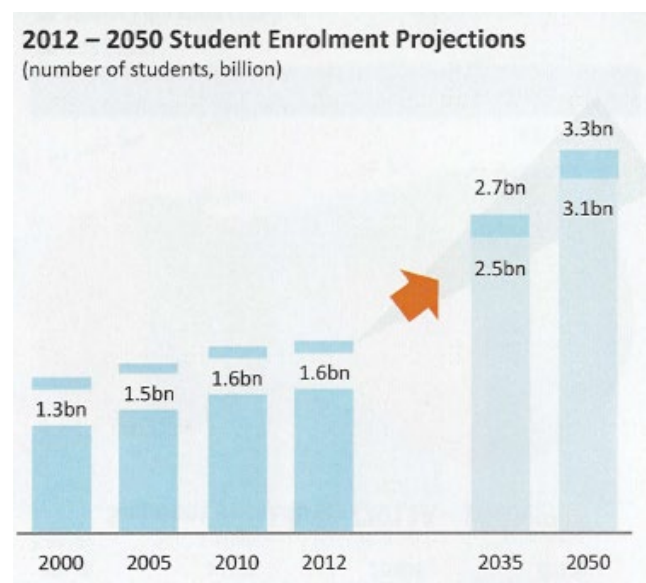
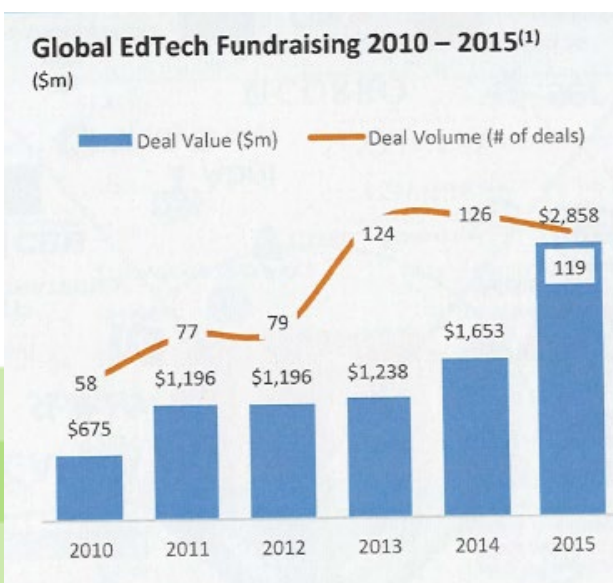
The Value of Knowledge Transfer on the Development of EdTech Ventures

by Kwan Hok-ming, Lemon
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EdTech Industry



- Global education expenditure: USD5 Trillion (5 x 1,000,000,000,000 or 10¹²)
- 8x of software market and 3x of media and entertainment market
- Education digitization: 2%





EdTech Sectors

- K12 (kindergartens, primary and secondary schools)
- Blended Learning Platforms
- Mobile Learning Platforms
- Community Learning (Corporate Training)
- Employability Platforms (Professional Development)

Technology Transfer in Universities

- to transfer university research outcome (**innovations and technologies**) into real business and daily life **applications**
- to apply university **expertise and knowledge** to upgrade the **operation and services** standard of a particular company / industry
- stakeholders, including the **industrial** sector and the **governments**
- to support **economic development** and establish **industrial standards**
- To **general income** over HKD100 million for local universities in 2019
(The figure for Oxford University is HKD800 million)

Impact on the City

- Upgrade the **career** prospect for science and technology graduates
- Get better **return** on the society's spending (investment?) on research and development (0.4% of GDP, ~HKD11 billion in HK in 2019)
- Create **new businesses** and industries
- HKSAR **direction** of promote smarter city
- China's **policies** of investment on innovation and technology

Problems

University Side:

- Knowledge Transfer is the third mission of universities in HK
- Each of them set up designated offices to push their knowledge to industries

EdTech Companies in HK:

- There are neither UG nor PG program in HK specific on EdTech
- EdTech companies are mostly start-ups
- Either with subject knowledge of education or hard-core knowledge of technology
- There seems to be synergy in between.

But...

Are they match?

Research Questions

- How does university knowledge help an EdTech business in the startup life cycle?
- What are the differences in the effects of university's technology invention and intervention innovation on EdTech startups?

Research Objectives

- O1: Identify the types of knowledge which universities can transfer to EdTech businesses
- O2: Identify the aspects of an EdTech business that university knowledge can advance
- O3: Identify the relationship between O1 and O2
- O4: How do different types of university knowledge affect the performance of an EdTech business in the startup life cycle?
- O5: What is the framework for effective matching of university knowledge and business needs?

Theories and Literature Review

Tech Transfers

Technology transfer between universities and industry is considered an essential driver of technological advancement, inventions, and the social economy. It fosters the commercialisation of discoveries and new knowledge with community partners (Bercovitz and Feldmann et al. 2006; Mowery and Nelson et al. 2004)

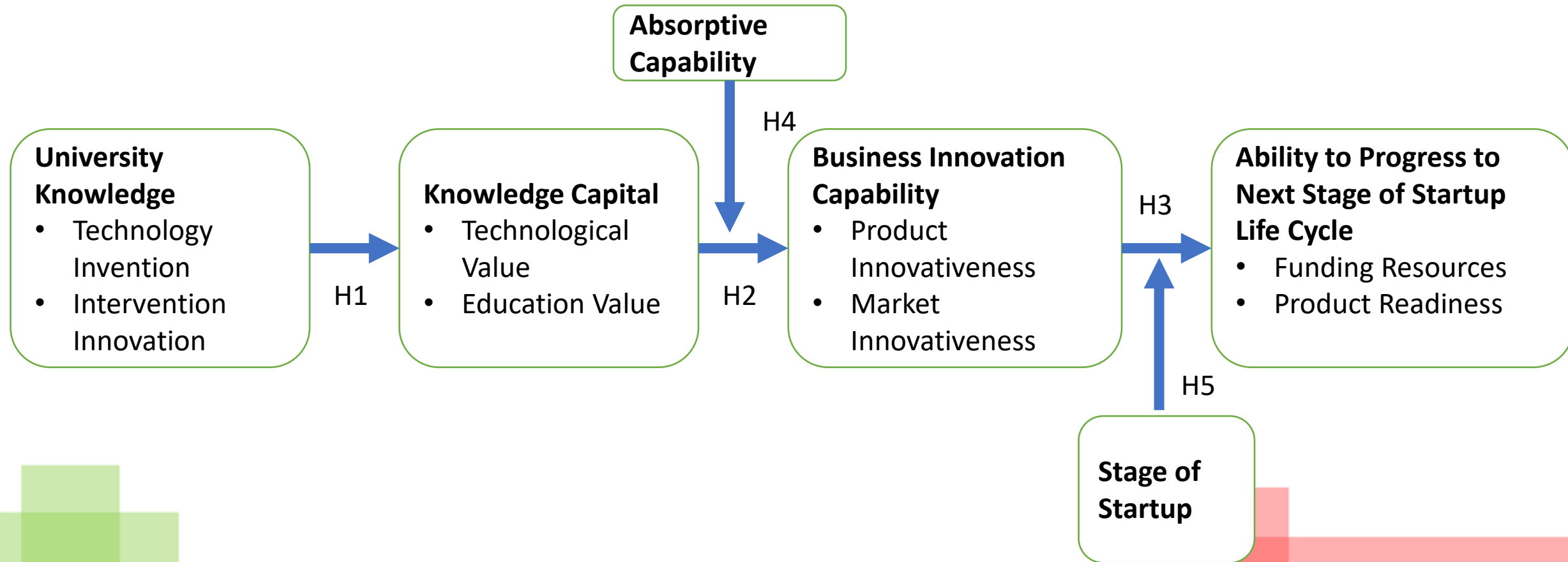
Technology Transfer realises intellectual properties, expertise and knowledge in business operation (Albats, et al., 2018; Bigliardi et al., 2015; Stankeviciene et al., 2017, 2019)

Theories and Literature Review

Stages	Ideation	Intention	Startup	Expansion
Definition	Potential idea generation	Entrepreneurial intention readiness, opportunity validation, and pre-startup activities	New venture creation	Consolidation, scalability, and self-sustainability
Required resources and capabilities(organizational level)	Technical resources and entrepreneurial culture	Financial, technical, and managerial resources	Financial, technical, physical, and managerial resources	Financial, technological, physical, and managerial resources
Key factors(individual startupper level)	Creativity, intuition, prior experience	Entrepreneurial and risk-taking orientation, self-confidence, motivation	Entrepreneurial and risk-taking orientation, self-confidence, leadership	Leadership, coordination ability, strategic orientation
Key Activities	Discovering idea, market opportunity intuition, resource needs and availability	Market opportunity validation, engagement/commitment, team building, resource searching/validation	Business planning, product and commercial development, searching for additional funding resources	Massive customer acquisition, back-end scalability improvements, new personnel and first executive hiring, internationalization
Milestones	Idea viability	Prototype	Industrialization	Scale-up
Ecosystem actors(mainly)	Higher education systems, governor and local agencies (entrepreneurial culture developers)	Higher education systems, startup initiatives, family, friends, business angels, fab labs, business centers, Technology Transfer Offices (TTOs), incubators	Incubators, accelerators, coworking spaces, crowdfunding platforms, venture capitalists, partners (suppliers, customers, SMEs, large firms, startups)	Accelerators, venture capitalists, partners (suppliers, customers, SMEs, large firms, startups)

- Startup Milestones and Performance Measurement (Renato, 2018)
- Criteria for progressing:
 - 1) problem/solution fit;
 - 2) product/market fit;
 - 3) scale
 (Sekliuckiene, 2018)

Relationship of University Knowledge with Business Performance



Hypotheses

- H1: University knowledge transfer advantage is positively related to a startup's knowledge capital
- H2: Knowledge capital advantage is positively related to the business innovation capability of a startup
- H3: Business innovation capability is positively related to the ability to progress to the next stage of life cycle of a startup
- H4: The effect of knowledge capital on business innovation capability of a startup is positively moderated by its absorptive capacity
- H5: The effect of business innovation capability on a startup's ability to progress to next stage of the startup life cycle is moderated by its current stage



Research Methodology

Research Design

- Two stage approach:
 - In-depth interview → clarify business factors and refine conceptual framework
 - Quantitative survey → Collect data to test the hypotheses
- Data Collection:
 - Personal experience
 - ~5 Senior practitioners of the EdTech industries
 - Data collected from ~70 EdTech startups / new entry to the EdTech industries in HK
- Cross-sectional approach, in company level

Measurement Items (i)

Constructs	Variables	Measurement Items
University Knowledge	Technology Invention	The technology invention is patented The technology invention is supported with research findings
	Intervention Innovation	The intervention innovation is supported with research findings
Knowledge Capital	Tech Value	The startup is capable of offering specialized technology The startup is capable to conduct in-house product development
	Education Value	The startup is with original pedagogies or educational practices The startup is capable to validate the education value of its products

Measurement Items (ii)

Constructs	Variables	Measurement Items
Business Innovation Capability	Product Innovativeness	The startup is capable of an effective integration of tech value and education value in the product The startup is capable of diversifying the product portfolio
	Market Innovativeness	The startup is with good connection with major customers The startup is with thorough knowledge of different market segments The knowledge supporting the startup's product is well recognised
Ability to Progress to Next Stage of Startup Life Cycle	Funding Resources	The type of income The amount of income
	Product Readiness	The time to launch the product in the market The capacity in scaling-up the production

Measurement Items (iii)

Constructs	Variables	Measurement Items
Control	Technological Turbulence	The technology in the EdTech industries changes quickly The technology trend of the EdTech industries is unpredictable New technology brings significant effect on product competitiveness
	Market Turbulence	The market changes rapidly The demands and customer needs are unpredictable The target customer groups is changing

Data Handling

- Pilot Study
 - Personal experience + Literature review → Survey instrument (Questionnaire)
 - Consultation of industry practitioners → Refining survey instrument
 - Pre-test with 10 EdTech startups → Check clarity, appropriateness and reliability
- Data Analysis:
 - Use Statistical Package for the Social Sciences (SPSS) software to access the reliability and validity of the constructs (Factor loading, Cronbach's α , Composite reliability)
 - Descriptive statistics: startup size, position of respondents, experience of respondents...
 - Identification of construct correlations

Expected Findings

- The results will support a significant inter-correlations of University Knowledge, Knowledge Capital, Business Innovation Capability, Ability to Progress Next Stage of Startup Life Cycle, Absorptive Capability and Stage of a Startup
- It will support the main idea that technology transfer can build up value for startup's and foster the development along the life cycle
- The findings will support all the hypotheses

Implications

- EdTech startups lack of either technical competences or educational competences, which can be advanced by university knowledge
- Low market and technology visibility and limited internal resources create a product innovation bottleneck for EdTech ventures
- Low educational visibility and ambit create a market innovation bottleneck for EdTech ventures
- The market lack neither technical nor educational competences, but there lacks channels to match each others

Limitation

- Cross-sectional study
- Opinions of the respondents can be subjective
- Admin management and technical management can have different view on product and market strategies