

# Metro/1 WIDE : Computer Assisted Instruction / Learning System for International Project Financial Economics Training Specifics

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**Abstract.** Pressing demand for innovation in CAI/L systems calls for up-scale methods with governances capable of escalating learning and managing knowledge from learning. Combinatorial effort of CAI/CAL with work-integrated-dissertation-environment, ideas compression techniques and Socrates delivery methods not only produces learning but brings esteem into knowledge retention. The concept of a BOM capacitated CRM facilitates synchronization of learning materials, and continuous benchmarking with work environment. CAI/CAL system for training international project managers serves to initiate innovation in narrowing gap for producing international project manager for mutual benefits between China and countries that host its investments.

**Keywords:** CAI, CAL, international, financial economics, BOM, Socrates, concept mapping, Metro, break-even, economics-equilibrium,

## 1. Challenges

That IMF quoted China's economy to surpass the US by 2016 [1], adds on challenges for increased off-shore ventures [2]. Imminently the immediate is demand for international project finance (IPF); an auxiliary function created as complexities of international financial economy get more interweaved with bi and multi-lateral relations among nations. An IPF manager is to coexist in an auxiliary state among main organizational functions with functional knowledge skew towards international project financial economics. Despite responsive effort towards demand for IPF managers by universities in the likes of Warwick [3], HKPU [4] and Northampton [5] in curriculum compression, advancement by information technology for international trade financial settlement remains a challenging resolve. Turning this gap inside out offer an opportunity from a financial economics perspective that draws IPF prospects from students who are mid-way through their professional international accounting studies according to >70% of selective students interviewed seek to advance into this IPF managers gap [6]. This paper's summarize a governance schematic intent for a CAI/L.

## 2. Multi-Disciplinary Approach

Notwithstanding disputes in learning theories [7] [8], status quo gap between industry and academia [9], this capstone intended paper seeks to narrow a specific part of this gap with a combinatorial perspective of sustainable best practices into the formulation of Metro/1; a CAI/CAL system development methodology with a wholesome approach that engages CRM through collaboration with industries for their expectation from IPF interns [10] and with partnering academia for their theoretical learning design outcomes. The formulation of Metro/1, purposive for work-integrated-dissertation-environment (WIDE) embodying all bases of learning through a consolidated integration of knowledge and management practices to produce IPF

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managers, is derived along attributes of incidental, experimental and industry's advocates since 2008 and six best practices below.

Meant for quality control circle, PDCA [11] requires touching all bases by thinking, doing, checking and acting, it remained responsible for escalating Japanese production quality throughputs [12]. That PDCA laid the foundation for advancement into GMP, TQM and Six-Sigma reinforced the indifference between producing goods and learning. The key to adult learners is engagement [13], what may be used to engage and how to continue engaging are considered because case learning explains connections' co-existence among critical and lateral thinking, and along with concept maps form workflow linkages from causal effects. Concurrent with the case method, concept mapping [14] is to enhance learners' capacity as concept maps bring out the essentials of those disciplines that learners can use immediately in the real world that measures immediate visible abilities rather than having to wait for talents to develop. That Socrates method of engaging minds [15] had shown positive development among earlier interns between 2008 and 2010, according to companies surveyed during the same period [16]. Earlier consulting experiences at IBM inherited knowledge of IBM 1500 CAI [17] [18] system and concept from a BOM that synchronize CRM to PLM for managing materials' development sequencing in a step-up learning process similar to an assembly BOM's sequence with an assembly line's work instructions [19]. These six principles are depicted in Fig 1 for the formulation of a CAI/CAL system development schema represented in Fig 2. Each SOP in Fig 2 is briefly elaborated in Table 1.

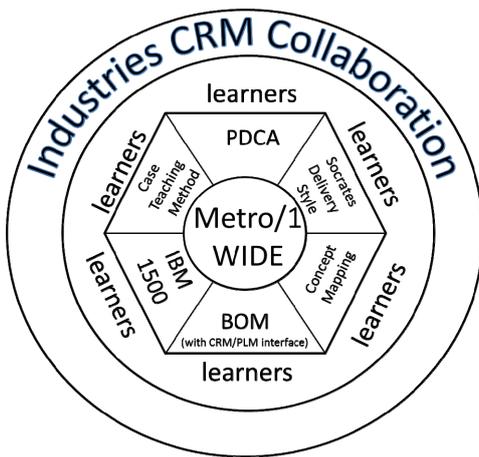


Figure 1 Metro/1-WIDE Level-0. Industry Collaborated Computer Assisted Instructional System Development framework for international project finance training

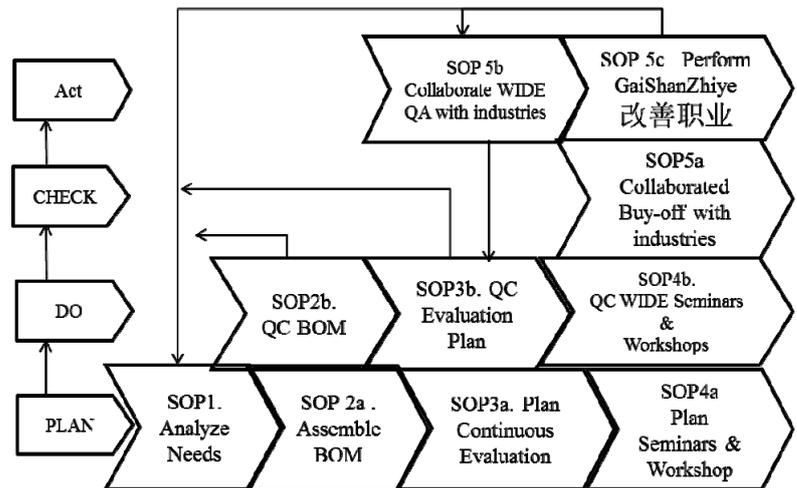


Figure 2. Level 1 of Figure 1.

Table 1. Selective SOP Summary of Figure 2

SOP	Metro1 – WIDE - Selective SOP Summary
1	Obtain industry skill development objects and theoretical learning outcomes form partner university
2a	Assemble BOM with pre-exist material and/or by new development specified in SOP-1
2b	Walk materials through BOM and SOP1 specifications for completion
3a	Plan evaluation of learning outcome and skill development touch points
3b	Walk touch points through learning outcomes and skill development check lists
4a	Plan seminar/workshops with engagement delivery tactics
4b	Walk seminar workshop plan through learning outcome and skill development check lists
5a	Promote supervised regulated training plan to partnering companies
5b	Collaborate monitoring of interns' performance with partner companies
5c	Analyze training effectiveness against partnering companies' feedback and academic learning outcomes for identifying further improvement

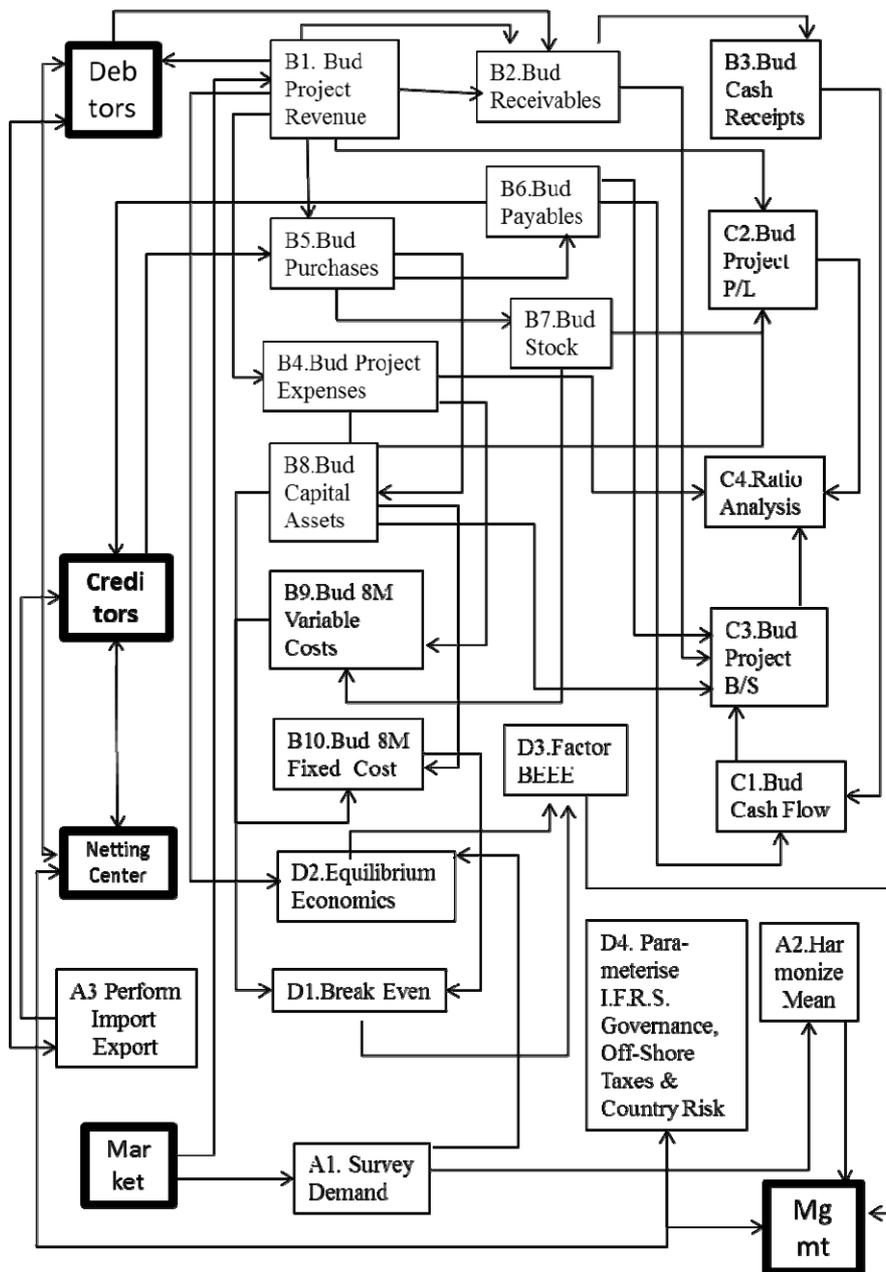


Figure 3. Level-0 Process Flow for Development of Integrative Worksheets Interfaces

Table 2. System Boundary of Level-0 Processes with Pedagogy Sequence

Pedagogy Sequence	Demand/ Logistic	Accounting	Performance	Decisions
1	A1			
2	A2			
3		B1		
4		B2		
5		B3		
6		B4		
7		B5		
8		B6		
9		B7		
10	A3			
11			C1	
12		B8		
13		B9		
14		B10		
15			C2	
16				D1
17			C3	
18			C4	
19				D2
20				D3
21				D4

**Deb tors** Square with dark border denoting external entities name. The example here has 'Debtors' as external entity

→ The arrow denotes the direction of process flow

**B1. Bud Project Revenue** Process reference follow with description. An alphabet follow with a number e.g. 'B' denotes system boundary and the number e.g. '1' denotes the serial number uniqueness. The first word in a process is a verb e.g. Bud for budget as a verb meaning to make provision for project revenue

### 3. Selective Explanation Within Sub-System Boundaries

Each worksheet being a process, the appropriate interfaces among them in Figure 3 together formulates a simulation system to determine financial payoffs arising from articulating an optimum BEEE [20]; a tangent relationship between break even and economics equilibrium adherence to corporate governance in a company's Articles of Associations, both land and off-shore. Development of these worksheets incorporated colored cells and worksheet sections that are triggered by pre-defined conditions for the purpose of presenting associativities between interfacing values. Selective processes for explanation in each boundary are;

Market Demand Survey Processes Boundary (A1.....A3)

SOP A1 - Manage Demand; Demand management begins with an environment scan to ascertain if there is a need that justify worthwhile and prudent financial opportunities according to choice of survey method.

SOP A2 - Harmonize Means; This process refer to identifying a mean lower than a geometric means procedure to select a variable that need less investment to recover lost market share [21]

SOP A3 – Perform Import Export; the procedure of import and/or export involves a supply chain of financier and logistics entities, and related documents.

#### Accounting Processes Boundary (B1.....B10)

From base numerate inputs of budgetary estimates collected, cash flow for the project period work through the flow to communicate working capital requirement while qualifying various break-even benchmarks to be considered for re-simulation to arrive at acceptable financial performance according to pricing parameters and permissible risk/cost effective governance. One simplified way to capture ABC is through two separate matrices for fixed and variable. [22] [23].

#### BEEE Processes Boundary (C1.....C4)

SOP C3 - Factor BEEE; outputs from demand survey and accounting converge in this process to produce the break-even economics equilibrium factor for purposive positioning of project price estimation.

#### Performance Processes Boundary (D1.....D4)

SOP C4 - IFRS, Governance, Off-Shore & Risk Parameter ; the Articles of Association of landed and off-shore incorporations are referred including country risk, tax rates of various countries that affect netting center financial planning, third party dealings especially out-sourcing and limitation or risk level permissible in dealings while regularly updated whenever new banking regulation arise.

## 4. System Test Status

From the inception of ideas since 2008 leading to the current formulation of Metro/1 and Metro/1-WIDE, financial economics data are being gathered from Australia for several major raw materials. These data are input into the model in Fig 3 to observe for further refinement required to improve system simulation robustness.

## 5. Majore Close Proximity Significance of Natural Progression

The Metro/1-WIDE leadership initiative base on CAI/CAL is expected to offer four selective close proximity significances that are of natural progression from this paper.

- Narrow the gap in quality training availability for international project manager.
- Contribution of findings to publication using prototype simulation model in Figure 3 for regular updates in China CFO Forum and capital markets with quantifiable microeconomics and macroeconomics opinions.
- Continuous refinement of BEEE theorem to enhance ‘b’ above.
- Inaugurate an IPF manager body for the betterment of some 5000 international accounting graduates and students in Shanghai [24].

## 6. Conclusion

Challenges for China being the leading economy is to be proactively met by all quarters and the three initiatives of BEEE, Metro/1 and Metro/1-WIDE are focus toward that intent to escalate attempts to produce international project managers in a fast, competitive and changing international trade finance market place, made more challenging by quantum advancement of information technology. These calls for equal enthusiastic efforts to reinvent CAI/CAL as the spiral nature of system life cycle need to feed with updated rules and inputs from regular sensing of global financial economics environment. Only with vigilant alertness can financial systems retain current, enriched and enlarged to meet today’s challenges.

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