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A CIIR White Paper

## **UNANTICIPATED CONSEQUENCE OF FOREIGN DIRECT INVESTMENT - REQUIREMENT TO CONTROL INFORMATION INTEGRITY FOR COMPARATIVE ADVANTAGE**

(I\*I Research and Knowledge Development Direction)

by

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### **1. INTERNATIONAL ECONOMIC INTEGRATION – THE MOST KNOWN FORM OF INTERNATIONALISM**

Internationalism is the principle of cooperation among nations for the promotion of their common good. At a theoretical level it offers a liberal basis for globalization, which views markets not as a place where profits are made but as a place where society advances in the common good. Its most known form is international economic integration, which is what happens when technology allows people to pursue their own goals and they are given the liberty to do so.

### **2. PRIMARY AND SECONDARY LEVELS OF INTERNATIONAL ECONOMIC INTEGRATION**

At a primary level, internationalism has its origin in economic integration through activities of traders, who crossed borders in order to trade. At this level international economic integration is supported by foreign trade (FT). With the advances in technology, in time, internationalism came to be operated at the second level. Here FT and flow of investment across borders (FDI) support economic integration.

When people choose FT and FDI, there is economic integration and because people have freely chosen these this is a good thing. The axiom is again because people have freely chosen this course (a decision), there is economic benefit as well.

### **3. BUSINESS RESEARCH IN CONSEQUENCES OF FDI: INCREASED IMPORTANCE OF FT WITHIN MULTINATIONALS**

Economic and social analysts offer extensive arguments in support and against the visualization of international market but the remarkable success of the American economy during the 1990s – a success, which, thanks to globalization, has been seen and reflected upon all over the world – has made its acceptance by people at large world over, a reality. This has focused much business research attention to the issues of economic integration from the consequences of FDI. A recent

OECD study explored the growing internationalization of production through global supply chains. Multinational firms base different parts of their operations in different economies to make use of local market factors for comparative advantage. The study observes that foreign direct investment (FDI) has increased the importance of international trade within firms. The estimate is that one-third of America's and Japan's total trade takes place within multinationals and their affiliates.

#### **4. REALITY DEEPER THOUGH – EMERGENCE OF ECONOMIC INTEGRATION AT THIRD AND HIGHER LEVEL**

While the above conclusion is important in itself as it indicates need for change in strategic direction for national economic development, it is *further* embedded with a basis for internationalization of production at third and higher level. At *this* higher level, MNCs are required to reap comparative advantage through knowledge and marketing linkages within the firms and their affiliates. That is, at the third level, trade (FT), flow of investment (FDI) *and* flow of information from knowledge and marketing linkages across borders support economic integration. Further, *this* foreign direct information in the manner of knowledge and marketing linkages (FDIKML) is originated as *function of the recipients* of FDI. This recognition, which is based on international business implications of local market factor beneficiation, points to a very interesting line of research and argues *requirement to control Information Integrity (I\*I) for comparative advantage*. In what follows, this note briefly outlines this argument and simultaneously suggests a research opportunity to study economic impact of I\*I.

#### **5. THE DATA POINT OF INTEREST: RECENT DEVELOPMENTS IN AUTO INDUSTRY IN INDIA**

Towards the above objective, recent developments in the auto industry in India offer a very useful data point. Encumbered by the consequences of import-substitution policy, Indian auto industry faced the implications of FDI. Foreign auto companies did not enter Indian auto industry for low-cost production. In fact they knew car manufacturing in India was uneconomical. Yet they expected it to be profitable, thanks to a ban on auto imports, which was later relaxed but with astronomical import duties. FDI in autos was of the tariff-jumping variety, driven *not* by efficiency but by profitability from uncompetitive manufacturing shielded by Indian protectionism. In fact, foreign companies opposed the import of second-hand cars, including their own models, to maximize gains from protection. Further, several Indian states tried to attract foreign auto companies through tax breaks and offer of cheap land – a case of non-competitive economics.

In summary, foreign companies entered India with the information decision (i.e., *assumed* information) that India had a huge middle class dying to buy cars. But they found the market small, competition fierce, and profits non-existent (business *environmental factors*). In due course, however, they *recognized* that domestic component manufacturers had remarkable potential, which could be harnessed to lower costs through information *origination* in the way of new design and know-how.

Having lost millions in the domestic market, foreign auto companies are now making India a global supply base, wherein multinationals are achieving comparative advantage by emphasizing *across borders flow of information in the form of knowledge and marketing linkages* within

MNCs and their affiliates. This is helping Indian auto ancillary manufacturers to bring down costs and become globally competitive.

## **6. DATA ANALYSIS: TWO APPROACHES**

**6.1 FIRST APPROACH – AD HOC AND NON ANALYTICAL:** Given the above data points, the most common approach to analyzing the consequences of FDI is by viewing the *then* loss of millions in the domestic market (from initial incorrect information decision) and the *now* emerging advantage (from local auto component manufacturers becoming part of the global supply chain) as outcomes of *that* often cited phenomenon of inherent business uncertainty (or noise). This leaves the strategic business consequences to chance phenomenon. This approach easier to adopt sees incorrect as well as correct business decisions as of that moment, with no functional relationships between different time phenomena. Assuming static environment, it's entire emphasis is on functional, i.e., observable errors and opportunities. This approach, therefore, is ad hoc in nature and not amenable to scientific and analytical study of business decision-making for comparative advantage.

**6.2 SECOND APPROACH – SYSTEMS' AND I\*I BASED:** Need is therefore for a more holistic and systems approach to analyze the above data points. Such approach is *Information Integrity (I\*I) based* and may see design of objects (some concrete and some abstract), activities (some organizational and some operational), rules and procedures, communication, norms, commands, and patterns of behavior as being the source of business losses and benefits. This approach *recognizes* the reality of unexpected changes in outcomes (consequences) of information decisions due to *distortion and noise*, that is, *incorrect production of information*. Accordingly, this approach accounts for dynamic and ever-changing environment (reality is never constant) by going beyond what is observable and by including non-observable errors and opportunities. This facilitates studying functional relationships (interdependency) between two time phenomena in the presence of uncertainty, which in turn provides an analytical basis for deciding on correct information decision by controlling degree of correctness (I\*I) for comparative advantage.

## **7. I\*I BASED ANALYSIS OF CONSEQUENCES OF FDI ON INDIAN AUTO INDUSTRY**

Foreign auto companies brought FDI into Indian auto market with the goal of making profit but there was loss of Goal Integrity right from the beginning.

### **7.1 INITIALLY WHAT WENT WRONG?**

In the beginning MNCs lost millions in the domestic markets. What went wrong?

#### **7.1.1 Loss of Design Integrity resulting in loss of Goal Integrity**

For profitability MNCs desire internationalism. At a theoretical level internationalism requires efficient markets. However, FDI in auto sector was driven *not* by efficiency but profitability from uncompetitive manufacturing shielded by Indian protectionism. Opposition by MNCs to import in India their very own second-hand car models is a strong indicator of this. The strategy of the firms was to maximize gains from protection. In the framework of the theory of internationalism, *this* was an error in strategy design leading to loss of Design Integrity. Thus, in spite of all apparent emphasis on profitability, right from the beginning there was a loss of Goal

Integrity in that the firms *did not* choose (decide) FT and FDI *correctly* (optimally) for profitability.

**7.1.2 Initial Market Information Decision Error resulting in Loss of Information Integrity**  
Foreign companies entered India with the information decision (i.e., *assumed* information) that there was a huge middle class waiting to buy cars. But they found the market small. There were thus non-critical, interdependent environmental factors, which were not *recognized* and not *originated* while taking initial market information decision. This led to initial incorrect production of market information decision, which resulted in loss of Information Integrity.

**7.1.3 Impact of other system environmental factors leading to loss of Information Integrity**  
There were other business environmental factors such as fierce competition, which made profits almost non-existent. Non-recognition of *these* factors led to loss of Information Integrity and resulted in loss of Goal Integrity. (It is a good research question to identify *all these* environmental factors).

#### **7.1.4 Economic impact of loss of Information Integrity**

The loss of Goal Integrity, Design Integrity and Market Information Integrity, i.e., the loss of Information Integrity led to loss of millions for MNCs in domestic market.

## **7.2 SUBSEQUENTLY WHAT WENT RIGHT?**

At this stage, the firms came to harness the potential of the local (domestic) component manufacturers to create markets abroad and to generate profits resulting in improvement in Goal Integrity. How did this come about? What exactly went right?

### **7.2.1 Correct recognition of information resulting in improved Information Integrity**

In fact what went right is that the MNCs *correctly recognized* that local (domestic) component manufacturers had remarkable potential for knowledge development, which could be harnessed (beneficiation process) to create markets (opportunities) abroad and to generate profits. This resulted in improved Information Recognition Integrity. More specifically, the firms *recognized* that domestic component manufacturers could deliver at lower costs new design and know-how, which could serve new markets outside India. This resulted in identification of correct information ( $I_2$ ) on market imbalances indicating correct (i.e., with integrity) business opportunities as opposed to incorrect ones pursued earlier when firms entered Indian domestic market to profit from uncompetitive manufacturing shielded by Indian protectionism.

### **7.2.2 Correct origination of information on knowledge and marketing linkages resulting in improved Information Integrity**

Improvement in Information Recognition Integrity on the part of the MNCs necessitated the MNCs' local counterparts and affiliates to commit incoming FDI resources to their (counterparts' and affiliates') internal and external systems to originate:

- (a) Information ( $I_3$ ) constituting working mechanisms for resource allocation for origination of information, and
- (b) Information ( $I_1$ ) on *low cost designs and know how* for use (comparison and selection) in markets across borders as identified under information  $I_2$ .

For information  $I_2$  with integrity, it is when  $I_1$  and  $I_3$  were originated correctly, i.e., with integrity, that the flow of information ( $I=I_1+I_2+I_3$ ) in the form of *knowledge and marketing linkages* across borders accrued efficiency and *economy* rendering the business profitable in the correct sense of the theory of internationalism. In other words, for profits, firms and their Indian counterparts and affiliates found it necessary to commit their internal and external system resources to ensure, i.e. control, integrity of information "P".

## 8. ANALYSIS OF ECONOMIC BENEFIT FROM IMPROVED I\*I

Origination of information *I* with integrity and its flow across the borders are now making Indian auto sector a global supply base, wherein multinationals are achieving comparative advantage by emphasizing *knowledge and marketing linkages* within MNCs and their affiliates. This is helping Indian auto ancillary manufacturers to bring down costs and become globally competitive and some foreign investors are now even making India a R&D base. Consider some highlights.

- Ford is exporting over half its production.
- Suzuki is using India as a base for exporting the Alto, and is considering a R&D center here.
- Hyundai is making India a global export base.
- Daimler-Chrysler is exporting cars, and also accounted for eight per cent of all auto component exports in 2001-02. Its global component purchases total 100 billion euros. If India gets one per cent of this, that means one billion euros.
- Ford is outsourcing \$120 million to \$160 million of auto components over the next two years.
- Hindustan Motors - an import-substitution dinosaur – is today a supplier of world-class engines to Ford and General Motors.
- Delphi, the biggest auto component company in the world, plans to export \$330 million to \$350 million of components by 2005, of which it will manufacture one-third and outsource the rest from Indian ancillaries.
- Timken, one of the world's biggest producer of automotive ball bearings, is going to double its capacity and set up a Rs 23-crore global research center in India.

These developments are pointers to the Indian Auto Components Manufacturing Association plan to raise its export target for 2010 from \$2.5 billion at present to \$10billion. Together these figures give a basis for quantitative statement of the economic benefit accruing from improved I\*I.

## 9. EMERGING UNANTICIPATED CONSEQUENCE OF FDI – CONTROLLING I\*I FOR ENSURING COMPARITIVE ADVANTAGE

Visualization as above of 'what went wrong' and 'what went right' in respect of entry of FDI by foreign companies in Indian auto market is pregnant with powerful insight. When MNCs first lost millions in the domestic markets, it was due to the *Loss of Goal Integrity, Loss of Design Integrity and Loss of Market Information Integrity*. And subsequently when firms are set to achieve comparative advantage it is due to the *Improved Information Integrity* at two levels. First, it is due to the *Improved Information Recognition Integrity* in respect of information about local component manufacturer potential for knowledge development - Information ( $I_2$ ) from the local market factor beneficitation. Second, it is due to the *Improved Information Origination Integrity* of (a) Information ( $I_3$ ) constituting working mechanisms for resource allocation for *origination of information*, and (b) of Information ( $I_1$ ) on *low cost designs and know how for use* (comparison and selection) in markets across borders as identified under information  $I_2$ .

Once the reality of business losses from loss of I\*I, i.e., from production of incorrect information and the reality of business benefits from improved I\*I, i.e., from production of correct information are recognized, it becomes clear that, in the face of ever-present, changing system

environmental factors, it is not acceptable that information is assumed correct, once validated, and that information processing, in ballistic behavior, does not anticipate information error. In other words, in the face of ever-present local environmental factors, requirement is to recognize, originate and process correct information. Indeed, if the assumption of correct information were not to be made and if information were to be continuously validated for all times and at all stages, it would have been possible to take systematic integrity analysis and control steps in respect of the information processed at the various stages of the FDI entry in Indian auto market (a) by controlling initial stage Goal Integrity, Design Integrity and Market Information Integrity and (b) by controlling subsequent stage Information Recognition Integrity and Information Origination Integrity. This would have resulted in avoiding losses in millions during the initial business project stage and set the platform (i.e., organizational and operational environment) for achieving comparative advantage by all stake holders - firms, their local counterparts and affiliates, and most importantly the customers from global markets - right from the start. Stated differently, in the strict (rigorous) application of theory of internationalism, this would have made firms choose **FDIKML** with Integrity (i.e., freely) and because they have chosen with Integrity *this* **FDILML** (information decision), there would have been profit as well.

The conventional argument for foreign direct investment (FDI) is that it brings in foreign exchange. The conventional argument against is that it displaces domestic manufacturers. The present investigation shows both these arguments are wrong. Above all FDI results in flow of **FDIKML** across the borders. And control of integrity of *this* information decision (**FDIKML**) and its (**FDIKML**) flow create comparative advantage where none existed before. These are unanticipated consequences of strategic application of FDI for national development. Data points available from recent developments in auto industry in India suggest that foreign direct investment (FDI) can be (is) instrumental in increasing flow of **FDIKML** within firms. This in the real sense makes for global supply chains characterized by information flow *as* opposed to traditional *IS* and quality *IS*. On the part of firms, their local (domestic) counterparts and affiliates, this information flow across borders *for the first time* introduce the real world business decision points *with power* to deliver benefits or inflict losses to the external and internal stake holders of the global supply chain. For comparative advantage, this makes it fundamental to commit organizational and operational resources – external and internal - for controlling Information Integrity (I\*I) of this **FDIKML** and its flow.

## **10. OUTLINING A RESEARCH OPPORTUNITY TO STUDY ECONOMIC IMPACT OF I\*I**

India has long been a minor exporter of auto ancillaries. But when the biggest internationals entered India with FDI (i.e., with their own business stakes) *that* created circumstances for their *correctly recognizing* the remarkable potential of auto ancillaries and for *correctly originating* low cost designs and know how. Today, in a win-win situation, India's tiny ancillary companies, which were (and in many cases still are) too small and unknown to meet global demand, are in a reciprocating partnership with MNCs emerging as giant, global exporters. In all probability, today, Maruti 800 is the cheapest, internationally competitive car in the world. Also, Ford is using small and medium companies mostly unknown, such as Cooper Tier, Visteon, and Synergy Dooray. A medium company called Motherson Sumi has won a huge exports order of \$125 million for dashboard components. What is significant is that central to achieving such business benefit is the *control of Information Integrity (I\*I)* of information *recognition* and *origination*

processes. *From this angle, auto FDI in India, by emphasizing I\*I for comparative advantage, has become I\*I university for developing world standard skills and excellence in auto ancillaries with economic benefits for all stakeholders.*

This view of I\*I controlled transformation of auto component manufacturing sector is with I\*I research opportunity. I\*I research project statements given *here* briefly describe this opportunity. It may be mentioned the projects identified are only indicative and open to further strengthening.

- i) Project 1: A recent OECD study explored the research query of growing internationalization of production through global supply chains. The study observed that foreign direct investment (FDI) has increased the importance of international trade (FT) within firms. The estimate is that one-third of America's and Japan's total trade takes place within multinationals and their affiliates.

Deliberations of the white paper take the above business research query still further. Drawing on the data on MNC-helped-Transformation of Indian auto ancillaries into their becoming global suppliers, it would be useful to study the growth in the importance of FDIKML within firms. Such investigation should throw new light on inevitability of economic integration at third and higher level.

- ii) Project 2: Firm wise study of factors leading to loss of Market Information Integrity, of Design Integrity and of Goal Integrity, i.e. loss of Information Integrity, at the initial stages of auto FDI entry into India by multinationals. Also quantification of losses incurred due to loss of Information Integrity.
- iii) Project 3: Section (8) has identified a number of examples wherein multinational and Indian auto ancillary in reciprocating partnership have created win-win situation for both partners. Drawing on the field data, these examples can be studied to structure the information recognition process and to delineate methodology for its integrity analysis and control, as (information) requirements evolve and constantly change over time. The information recognition process would comprise following steps.
  - a. Identification of variables:
    - i. *Identification of independent critical variables*: In a system these interact mutually with a large number of other variables. These are then key variables: if one alters them, one exerts a major influence on the status of the entire system. Further, systems can be of different types.
      1. Negative Feedback Systems: Here an increase in one variable produces a decrease in another and vice versa.
      2. Positive Feedback Systems: Here an increase in a given variable produces further increase in that variable; a decline, a further decline.
      3. Well-Buffered Systems: This is a system incorporating many variables regulated by negative feedback. It can absorb a great many disturbances without becoming unstable. What is important to appreciate is that, in natural systems, the capacities of buffers *are* usually limited. A feedback system consumes material and energy, and if either is exhausted, the system may collapse. Simple it may look, designers have difficulty in understanding time variable and, in the process, designs invariably fail to visualize or

cover for the possibility of material or energy (for keeping the feedback system running) getting exhausted (case of loss of Design Integrity). And once this (unobservable, complex information error) event coming with delay happens, systems remain broken down for a long time or be permanently destroyed. Traditional system engineering techniques suffer from this design inadequacy and, accordingly, do not account for system failures due to incorrect production of information.

ii. *Identification of interdependent observable variables*: These are also called indicator variables. These depend on many other variables but by themselves exert very little influence on the system. However, they provide important clues to the *distortion* that could be accruing in the overall system status.

b. Tracking variables behavior over time so as to obtain structure of information model. This would require application of auto-correlation and cross correlation of variables between which there is time lag.

**Note**: Information structure model would be based on relationships between variables from different categories identified at (a) above. It is visualized that the exact relationships so obtained would be context specific. That is under different examples displaying different contexts and situations, for same variables the relationships can be different. Accordingly, what the research investigation will generate *here* is a body of information recognition alternatives (possibilities) each having high probability of success for the applicable context parameters. For given situation, the information recognition task then would be to select on the most correct alternative. From this angle the body of alternatives can be seen as information recognition decision support system.

iv) Project 4: Section (8) has identified a number of examples wherein multinational and Indian auto ancillary in reciprocating partnership have created win-win situation for both partners. The strategy of FDI entry in Indian auto sector by MNCs had conflicting goals. Drawing on the field data, these examples can be studied to structure how the trade-offs between goals that conflict are resolved and to delineate methodology for its integrity analysis and control, especially when the internal and external users and stakeholders must act under uncertainty, opportunity, risk, and the pressure of limited information origination and processing resources (e.g., time pressure, opportunity costs).

**Note**: Recognizing the reality of conflicting goals is an important necessity to plan for comparative advantage in a complex and changing business environment. Defining goals is the first step in dealing with a complex problem, for it is not immediately obvious in every situation what it is one really wants to achieve. Most obvious definition of goal is to change to a desirable condition. However complex situations *also* contain conditions that the problem solver (i.e., designer) should not change. These are implicit goals and give rise to conflicts. As a result, when defining the information requirements of a goal, it is important that information requirements in respect of implicit goals, opportunities, risks and trade-offs are also identified with integrity.

- v) Project 5: Drawing on the field data study from examples in Section (8), development of methodology to establish relationships between local (environmental) factors and information variables and for its integrity analysis and control, as depending on context the local environmental factors would differently impact information variables. This research visualization has interdependent variables as its concern.  
**Note**: It is visualized values of information variables would be impacted by local environmental factors. That is for different set of local environmental factors the same information variable may assume entirely different value(s). Accordingly, what the research investigation will generate here is a body of situation specific *what if* type knowledge alternatives (possibilities) with high probability of success for the applicable values of environmental factors. For a given situation, the task then would be to select (decide) the most correct alternative. From this angle the body of alternatives can be seen as knowledge decision support system.
- vi) Project 6: Drawing on the field data from examples in Section (8), development of information structure dynamics modeling process and to delineate methodology for its integrity analysis and control.  
**Note**: Application of this modeling process in a given context would give for the applicable situation the “forecasting” model, i.e., the *IS* model. In other words, consistent with the complex and changing goals, the *IS* model developed would be a dynamic one. It may be mentioned the knowledge support system developed in Project 5 would be a part of this *IS*.
- vii) Project 7: Drawing on the field data from examples in Section (8), development of methodology for modeling flexible information decision and control implementation and its integrity analysis and control.  
**Note**: This flexible information decision and control implementation would be based on the information structure dynamic model developed in Project 6. More specifically, it will comprise following individual elements.  
Element 1: Observation of the Real World Events  
Element 2: Verification of Problem Area Data Observed  
Element 3: Problem Recognition or Operable Goal Setting  
Element 4: Prediction of Future States  
Element 5: Coordination of information origination activities with reference to:
  - Attending to data
  - Prioritization of problems and activities
  - Selection of flexible information decision
  - Control implementation
  - Reevaluation
Element 6: Selection of Flexible Information Decision and Control Scheduling  
Element 7: Input-Process-Output Implementation  
Element 8: Reevaluation  
Element 9: Information origination resource management
- viii) Project 8: Items (iii) – (vii) above identifying Projects at Nos. (3 –7) span *IS* view of FDI entry business project in Indian auto sector. As delineated through project statements, this *IS* view works out to be a multistage decision process, which is a continuous individual information recognition, origination and processing under uncertainty. As Projects (3-7) suggest research investigations to structure these

information recognition, origination and processing and their integrity analysis and control mechanisms, it becomes clear these (information recognition, origination and processing) are costly activities.

Drawing on the field data from examples in Section (8), results of Projects (3-8) can be further developed to quantify:

- a. Economic benefit from correct production of information, i.e., information with integrity, and
- b. Costs of:
  - i. Recognizing information,
  - ii. Originating information,
  - iii. Analyzing correctness (i.e., integrity) of information, and
  - iv. Opportunity Cost.

This would facilitate establishing economic impact of I\*I.

**Note (1):** From (a) above when (b) is subtracted, it gives cost-benefit analysis of I\*I in the form of net benefit from correct production of information. For comparative advantage, the net benefit *must* be positive and requirement is to maximize this net benefit. In other words, for comparative advantage, requirement is to ensure *that* I\*I which maximizes the information use in the form of net benefit delivered.

**Note (2):** When information recognition and origination processes and I\*I analysis methods are developed and systematized, they would form I\*I Technologies. For the user, availability and application of these I\*I Technologies would bring down the costs under item (b) and increase the net benefit from I\*I, i.e., from information *use*. For comparative advantage this would necessitate firms to commit their resources to ensure I\*I of their internal and external systems and of information there from.

## 11. CONCLUSION

Market is a place to advance common good of the society. It draws strength from the principle of internationalism, which emphasizes economic integration based on freedom to choose a course (a decision). With successes in production automation sharply increasing the volume and speed of energy processing, businesses precipitated fixed information decision control responses for competitive advantage. International economic integration based on FDI has its origin in this business model.

With innovations in information technology, the volume and speed of information processing and decision-making have undergone sharp increases. This is resulting in business process models emphasizing information. Information is higher order or derivative of matter and energy and depends on them for its existence. Therefore, in this new environment, predetermined choice of information decision as control response is contrary to requirements of efficient and economic material and energy processing, which incidentally is a prerequisite for comparative advantage. In the rigorous application of theory of internationalism, this calls for economic integration at higher level by FDI inducing local market factor beneficitation processes resulting in the reality of flow of foreign direct information in the form of knowledge (about low cost designs) and marketing linkages (**FDIKML**) within firms. This requires that information **FDIML** *is* with integrity.

Directional market data indicators recently observed, through the way of FDI entry by MNCs, suggest transformation of India's tiny and unknown ancillary companies into giant, global exporters. This presents a very formidable basis for investigating this recognition of inevitability of control of I\*I for achieving world standard skills and excellence for comparative advantage in global markets. This is an unanticipated advantage of FDI and it goes beyond its much-studied implications of increased FT within firms. Pursuing the research opportunities identified in Section (10) will help develop methods, techniques and technologies for achieving Information Integrity, which will make these unanticipated advantages anticipated ones for firms and their local counterparts and affiliates in different manufacturing, production and service sectors from different economies across the globe.

I\*I control is local and it facilitates stakeholders to pursue their own goals by choosing information decision freely, so that there is economic benefit for them. As a result, the main obligation of I\*I control is to protect markets that ensure common good of the society and not businesses that are ineffective and inefficient. This makes Information Integrity a key strategy to achieve internationalization of production through global supply chains.

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