Citation:

Muñoz, Lucio, 2026. True sustainability thinking 109: Linking a general management decision-making model and general impossibility, general partial possibility and general full possibility: The case of the profit maximization based business model, In: *Globenix Multidisciplinary Journal*, Vol. 2. Issue 6, Nov-Dec, Pp. 1-14, DOI: https://doi.org/10.5281/zenodo.24214500

True sustainability thinking 109: Linking a general management decision-making model and general impossibility, general partial possibility and general full possibility: The case of the profit maximization based business model

By

Lucio Muñoz*

*** Independent Qualitative Comparative Researcher / Consultant, Vancouver, BC, Canada Email:** munoz@interchange.ubc.ca

Abstract

We can think of a management model as one that has different objectives, and the implementions of these objectives leads to short term and lasting outcomes linked to sustainability dynamics. If the objectives are pursued without priority setting or one priority only setting, then we should expect outcomes that can be sustainable or sustained in the short term, but not in the long term as the system would tend towards full unsustainability due to the existence of an ongoing accumulation of sustainability gap pressures: this is the zone of general impossibility. If the objectives are in pairs or sets, we are in a world of bounded rationality and those pairs or sets of objectives can be sustainable or sustained in the short term, but not in the long term as remaining sustainability gaps and their accumulating pressures would push them towards full unsustainability: this is the world of general partial possibilities. If the objectives are pursued conjuncturally, then we should expect an outcome that is sustainable in the short and in the long term as here there are no sustainability gaps and no remaining sustainability gaps and therefore, no accumulating pressures: this is the space of full general possibilities. A business model that maximizes profits under social and environmental considerations can be framed and model in the same fashion. Among the goals of this paper are i) to introduce a general management decision-making model and link it to general impossibility, general partial possibility and general full possibility; and ii) to apply this framework to the case of the profit maximization based business model under different socio-environmental considerations.

The general model management framework

We can think of a management model as one that has different objectives, and the implementions of these objectives leads to short term and lasting outcomes linked to sustainability dynamics. For example, if we have a structure like model Y with different objectives K, L, and M, we can envision a world we can have short term (SR) and long terms (LR) impacts depending on the degree of conjuncturality under which its objectives are pursued, a situation reflected in Figure 1 below:

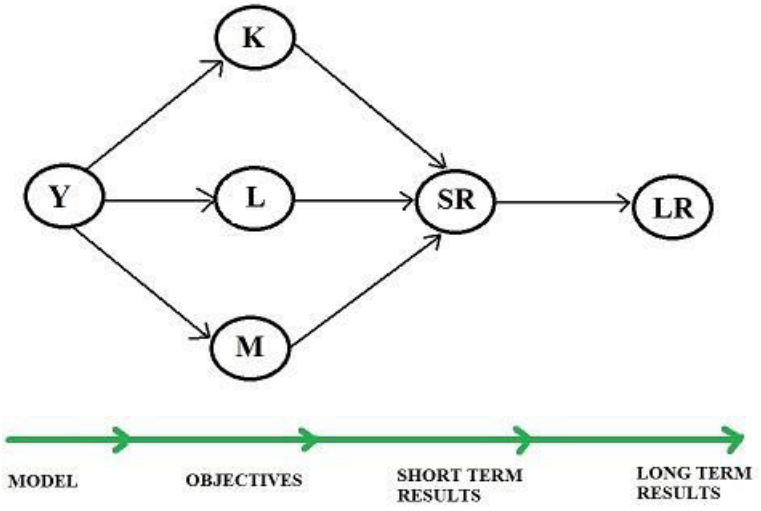


Figure 1 A GENERAL MODEL MANAGEMENT FRAMEWORK

Figure 1 above connects short and long terms sustainability results to how the model's objectives are implemented. The general model management framework above can be placed under different scenarios: a) no priority goal setting and cross interaction neutrality; b) under priority goal setting and hard exclusion or externality production neutrality assumptions; c) under soft inclusion and bounded viability setting, full or partial/perfect and/or imperfect internalization; d) under full inclusion/conjunctural priority setting, where there are no sustainability gaps.

The case of a model management framework with no priority goals

If all goals are relevant and there are no priority goals, then you have three independent management rules implemented at the same time, the pursue of one affecting the pursue of others

in a compartmentalized environment, but this crossed effects are not taken as relevant, a situation expressed in Figure 2 below:

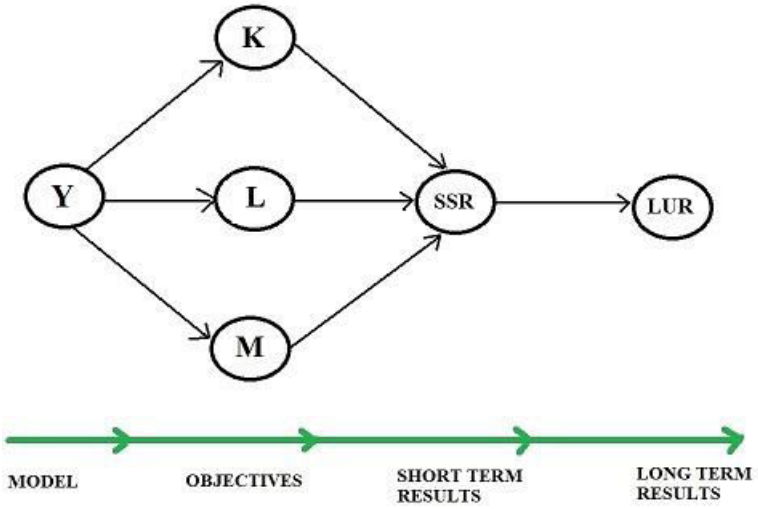


Figure 2 A GENERAL MODEL MANAGEMENT FRAMEWORK UNDER NO PRIORITY GOAL SETTING

We have three different goals being implemented and maximized at the same time as if maximizing one does not affect the maximization of the others

$MAX(Y_K) = MAX(Klm)$ -----→ SSR_K-----→ LUR_K

$MAX(Y_L) = MAX(Lkm)$------→SSR_L------→LUR_L

$MAX(Y_M) = MAX(Mkl)$-----→SSR_M-----→ LUR_M

We can see three different short-terms sustainability results (SSR) at the same time ending up in long unsustainability LUR in a way that assumed that the short term and longer results of one goal, be it K, L, and M, does not affect the others. No priority goal setting brings us then to the impossibility domain where the pursue of all goals at the same time, but all assumed independent of each other will bring incrementally to an overall system collapse in the long-term. Notice that the sustainable development framework (WCED 1987) has a structure of no development priority settings that should be expected to have short-terms sustainability in a compartmentalized fashion (Muñoz 2024), but long term unsustainability as the critical problems continues to deteriorate.

In summary, if the objectives are pursued without priority setting, then we should expect outcomes that can be sustainable or sustained in the short term, but not in the long term as the system would tend towards full unsustainability due to the existence of an ongoing accumulation of sustainability gap pressures: this is the zone of general impossibility, you cannot aggregate a set of fully independent objectives.

The case of a model management framework with one priority goal

Suppose we make goal L the priority goal only so K and M exist only to maximize L, then we have the management situation depicted in Figure 3 below:

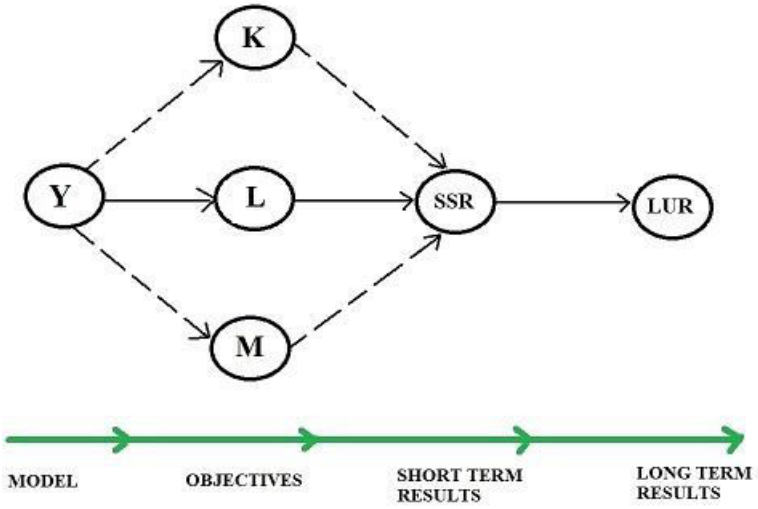


Figure 3 A GENERAL MODEL MANAGEMENT FRAMEWORK UNDER ONE GOAL PRIORITY SETTING

Figure 3 above describes a one dominant goal management framework, where the other goals are assumed to be irrelevant, when they are not irrelevant in reality

$MAX(Y_L) = MAX(Lkm) = [MAX(L)(MAX(km)]$------→$SSR_L$------→$LUR_L$

The expression above reflects the ideas that maximizing the goal L also maximizes its sustainability gap SG = km since as L expands subject to km, "km" also expand, leading to longer term unsustainability and collapse. A situation that bring us to the world of impossibility as in the long-term we will see full system unsustainability.

In short, if the objectives are pursued with one priority only setting, then we should expect outcomes again that can be sustainable or sustained in the short term, but not in the long term as the system would tend towards full unsustainability due to the existence of an ongoing accumulation of sustainability gap pressures: this is the zone of general impossibility, you cannot aggregate priority component based fully independent choices. Notice that the economy only model of Adam Smith (Smith 1776), and the society only model of Karl Marx (Marx and Engels 1848) are only central goal only priority setting approaches.

The case of a model management framework under soft inclusion

If there is soft inclusion of goal K so that now both goal L and K are implemented at the same time, then we have a partial codependent management situation reflected in Figure 4 below:

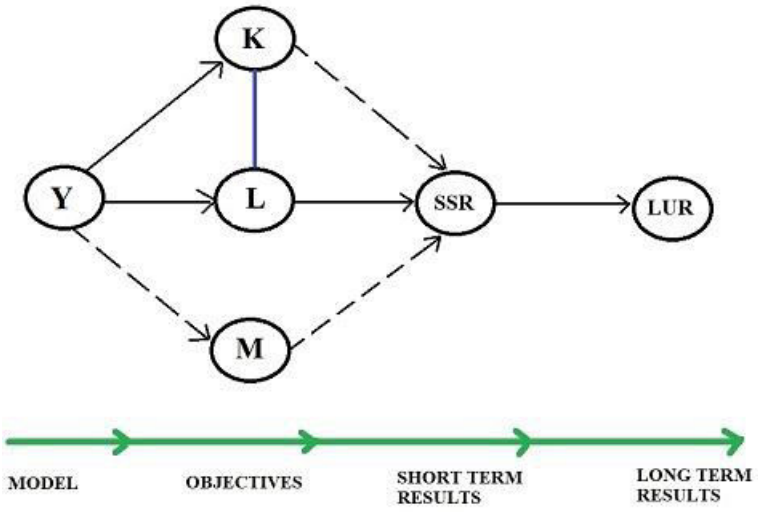


Figure 4 A GENERAL MODEL MANAGEMENT FRAMEWORK UNDER PAIR GOAL PRIORITY SITTING OR WIN-WIN MOVES

Figure 4 above now shows a co-dominant goal management framework, where the other goal is taken as irrelevant, when it is not irrelevant in reality

$MAX(Y_{KL}) = MAX(KLm) = [MAX(KL)(MAX(m)]$------→$SSR_{KL}$------→$LUR_{KL}$

The expression above indicates the ideas that maximizing the codependent goal KL also maximizes its sustainability gap SG = m as KL both expands subject to "m", "m" also expand, leading to longer term unsustainability and collapse. And this bring us to the world of bounded possibilities as codependent goals KL should expected to have short term sustainability SSR, but tend towards long unsustainability LUR.

Notice that the same would hold true if the soft inclusions in Figure 4 above is the implementation of the codependent goal LM, as then this would happened:

$MAX(Y_{LM}) = MAX(LMk) = [MAX(LM)(MAX(k)]$------→$SSR_{LM}$------→$LUR_{LM}$

The pursue of the codependent goals "LM" would be sustainable in the short terms SSR, but not in the long-terms leading to another situation under bounded rationality.

Therefore, if the objectives are in pairs or sets, we are in a world of bounded rationality and those pairs or sets of objectives can be sustainable or sustained in the short term, but not in

the long term as remaining sustainability gaps and their accumulating pressures would push them towards full unsustainability: this is the world of general partial possibilities, where codependent choices can be aggregated.

The case of a model management framework under full inclusion

When there is conjunctural priorities setting all goals are included in the management framework leading to both short terms SSR and long terms LSR sustainability as there are not sustainability gaps, a situation expressed in Figure 5 below:

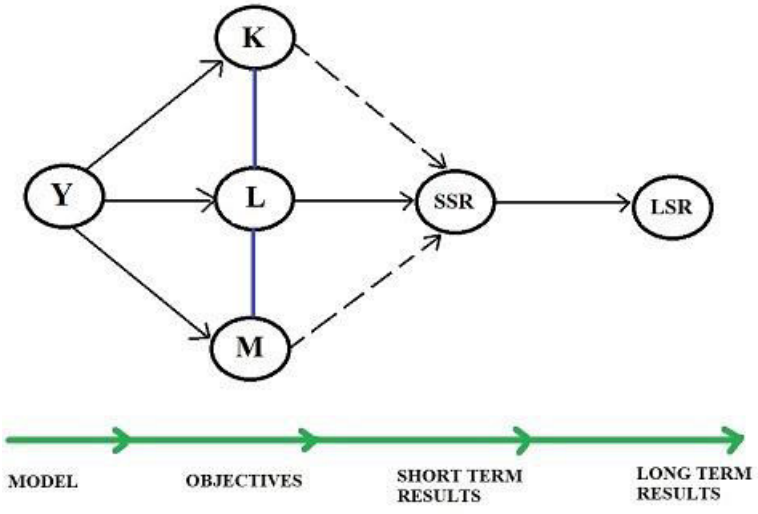


Figure 5 A GENERAL MODEL MANAGEMENT FRAMEWORK UNDER CONJUNCTURAL GOAL SETTING OR WIN-WIN-WIN MOVES

Figure 5 above states that full inclusion leads to short-term and long-term sustainability conditions as there are no sustainability gaps:

Y_{KLM} = KLM---------→SSR----------→LSR

The expression above is the structure of full possibility, the conjunctural implementation of the manage goals KLM leads to full sustainability conditions.

Hence, if the objectives are pursued conjuncturally, then we should expect an outcome that is sustainable in the short and in the long term as here there are no sustainability gaps and no remaining sustainability gaps and therefore, no accumulating pressures: this is the space of full general possibilities as fully codependent choices can be aggregated.

The degree of the general possibility theorem and the summary of possibilities

The idea of the general possibility theorem as a structural continuum and its summary of general possibilities has been recently shared (Muñoz 2026), which can be summarized as done in the Table 1 and Table 2 below, respectively:

Table 1

The degree of the general possibility theorem as a general structural continuum

Level 1

Independent/separated structures ↔ General impossibility theorem

↕

Level 2

Partially connected structures ↔ General bounded possibility theorem

↕

Level 3

Fully conjunctural structures ↔ General possibility theorem

Table 2

Summary of general possibilities

Level 1 → **Inconsistent relationships → Impossibility**

Level 2 → **Partially consistent relationships → Bounded (partial) possibility**

Level 3 → **Consistent relationships → Full possibility**

Nesting the general model management framework within the degree of the general possibility theorem as a general structural continuum and the summary of general possibilities as done in Table 3 and Table 4 below respectively

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Table 3

Nesting the general model management framework within the degree of the general possibility theorem as a general structural continuum

Level 1

Independent/separated structures ↔ General impossibility theorem

No priority choice setting:

$$\mathbf{MAX(Y_K) = MAX(Klm) \text{-----}\rightarrow SSR_K \text{-----}\rightarrow LUR_K}$$

$$\mathbf{MAX(Y_L) = MAX(Lkm) \text{------}\rightarrow SSR_L \text{------}\rightarrow LUR_L}$$

$$\mathbf{MAX(Y_M) = MAX(Mkl) \text{-----}\rightarrow SSR_M \text{-----}\rightarrow LUR_M}$$

One priority choice setting:

$MAX(Y_L) = MAX(Lkm) = [MAX(L)(MAX(km)]$------→$SSR_L$------→$LUR_L$

↕

Level 2

Partially connected structures ↔ General bounded possibility theorem

Pair priority setting

$MAX(Y_{KL}) = MAX(KLm) = [MAX(KL)(MAX(m)]$------→$SSR_{KL}$------→$LUR_{KL}$

$MAX(Y_{LM}) = MAX(LMk) = [MAX(LM)(MAX(k)]$------→$SSR_{LM}$------→$LUR_{LM}$

↕

Level 3

Fully conjunctural structures ↔ General possibility theorem

Conjunctural priority setting

Y_{KLM} = KLM---------→SSR----------→LSR

Table 3 above tells us that fully non-conjunctural priority settings, all objectives equally relevant or only one objective relevant, leads to general impossibility. Partial codependent choice setting brings partial bounded rationality or partial possibility. And full conjunctural choice leads to general possibility.

Summary of nested general possibilities for the general model management framework

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Table 4

Nesting the general model management framework within the summary of general possibilities

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Level 1 → **Inconsistent relationships → Impossibility**

No priority choice setting:

$MAX(Y_K) = MAX(Klm)$ -----→ SSR_K-----→ LUR_K

$MAX(Y_L) = MAX(Lkm)$------→SSR_L------→LUR_L

$MAX(Y_M) = MAX(Mkl)$-----→SSR_M-----→ LUR_M

One priority choice setting:

$MAX(Y_L) = MAX(Lkm) = [MAX(L)(MAX(km)]$------→$SSR_L$------→$LUR_L$

Level 2 → **Partially consistent relationships → Bounded (partial) possibility**

Pair priority setting

$MAX(Y_{KL}) = MAX(KLm) = [MAX(KL)(MAX(m)]$------→$SSR_{KL}$------→$LUR_{KL}$

$MAX(Y_{LM}) = MAX(LMk) = [MAX(LM)(MAX(k)]$------→$SSR_{LM}$------→$LUR_{LM}$

Level 3 → **Consistent relationships → Full possibility**

Conjunctural priority setting

Y_{KLM} = KLM---------→SSR----------→LSR

Table 4 tells us that inconsistent objectives means full general impossibility, partially consistent objectives means partial general possibility and fully conjunctural objectives leads to full possibilities.

The structure of the for profit business management model

A business model that maximizes profits under social and environmental considerations can be framed and model in the same fashion as the one in Figure 3 above as a one goal only model or one priority only model, profit maximization (B). If we make Y = BM = business

model, L = B = profit maximization, K = c = environment does not matter; and M = a = society does not matter, then we can state the structure of the for profit business management model summarized in Figure 6 below:

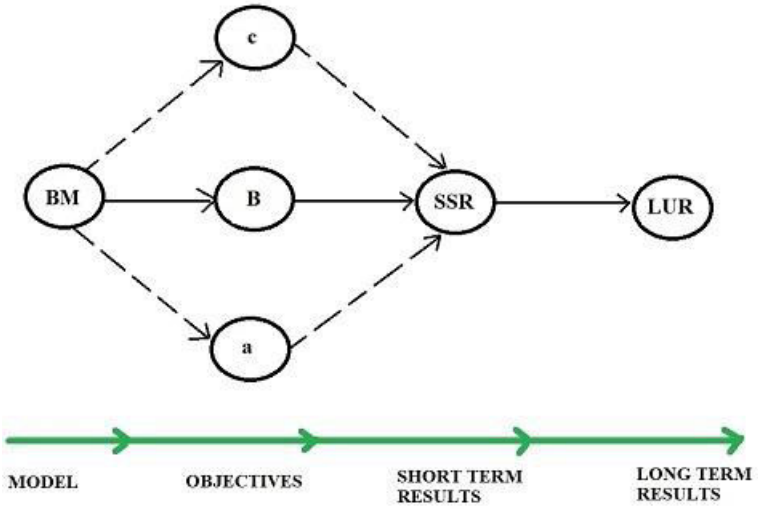


Figure 6 THE STRUCTURE OF THE FOR PROFIT BUSINESS FRAMEWORK

Figure 6 above shows the structure of the for profit business model (BM) where social (a) and environmental (c) considerations do not matter, only profit maximization (B) matters.

The working of the for profit business management model where only economic profits matters or from the for profit only lens

The idea that economies can disregard social (a) and environmental (c) considerations from business considerations has been with us since 1776 when Adam Smith (Smith 1776) gave us the theory of the perfect traditional business, one that has the structure in Figure 7 below:

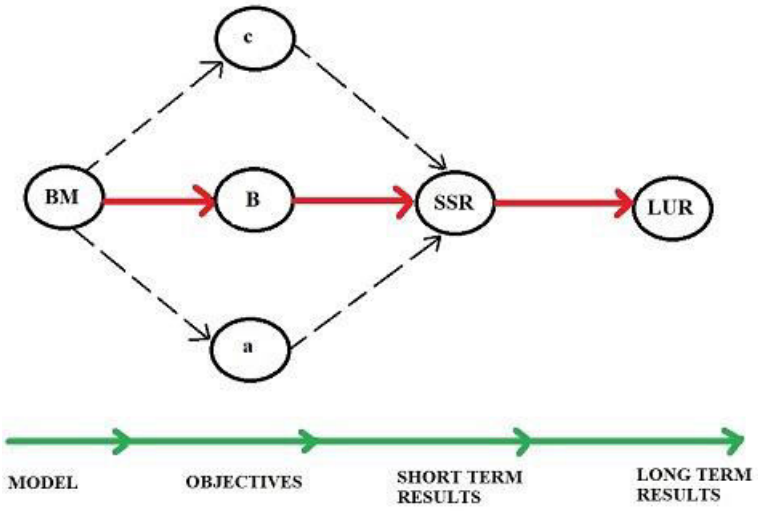


Figure 7 THE FOR PROFIT BUSINESS MODEL UNDER SOCIO-ENVIRONMENTAL COST EXTERNALIZATION

Figure 7 above tells us that under the for profit business model (BM) only economic goals matter (B), society (a) and the environment(c) exist only to make sure profits are maximized, which means the model will have short-term sustainable results (SSR), but it will have long term unsustainable results (LUR) as negative socio-environmental pressures accumulate creating several critical socio-environmental development problems to the point of full unsustainability.

The structure of the for profit only model can be written as follows

BM = aBc----------→ SSR----------→LUR,

as "a" and "c" are externalized.

And hence, when we maximized we see:

MAX(BM) = MAX(B)MAX(ac)---------→SSR_B----------→ LUR_B

Hence, as profit maximization expands, the socio-environmental sustainability gap (SG = ac) attached to it also expands, and when the accumulation of negative socio-environmental sustainability gap pressures tends towards full unsustainability and become binding, then the for-profit only business model will collapse.

The business management model under the environmentally friendly profit lens

If profits (B) is made environmentally friendly (BC) then we have a paired goal for profit model or a partially codependent for profit model known as the green market (GM), a structured indicated in Figure 8 below:

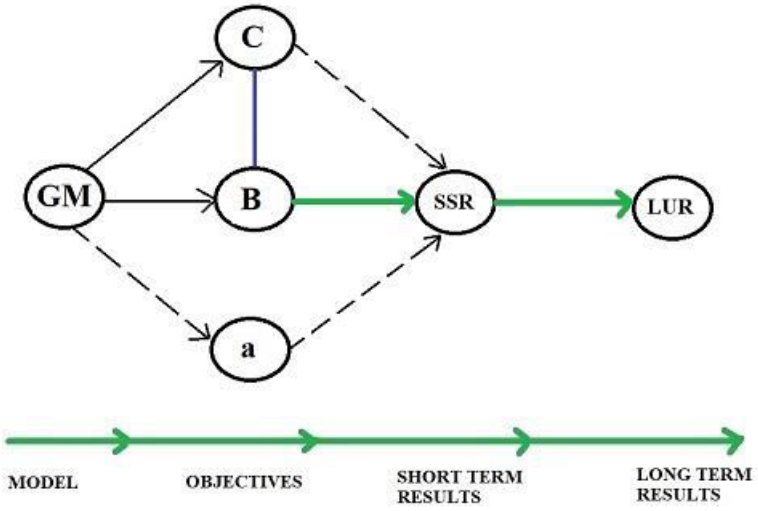


Figure 8 THE ENVIRONMENTALLY FRIENDLY FOR PROFIT BUSINESS MODEL UNDERS SOCIAL COST EXTERNALIZATION

Figure 8 above tells us that under the environmentally friendly profit business model (BM = GM) both economic and environmental goals matter (BC), society (a) exists only to make sure environmentally friendly profits are maximized, which means the model will have short-term sustainable results (SSR), but it will have long term unsustainable results (LUR) as negative socio pressures accumulate creating critical social development problems to the point of full unsustainability.

The structure of the environmentally friendly for profit only model can be written as follows

BM = GM = aBC----------→ SSR----------→LUR,

as "a"is externalized.

And hence, when we maximized we see:

MAX(GM) = MAX(BC)MAX(a)---------→SSR_{BC}----------→ LUR_{BC}

Hence, as profit maximization expands, the social sustainability gap (SG = a) attached to it also expands, and when the accumulation of negative social sustainability gap pressures tends towards full unsustainability and become binding the green business model will collapse. The idea above was supposed to be what in general the United Nations Commission on Sustainable development was attempting to do in Rio +20(UNCSD 2012a: UNCSD 2012b) when prioritizing

the solution of critical environmental problems by promoting environmentally friendly profit making or economy-environment based win-win situations.

The business model under the socially friendly profit lens

If profits (B) are made socially friendly (AB), then we have a paired goal for profit model or a partially codependent for profit model known as the red market (RM), a structured summarized in Figure 9 below:

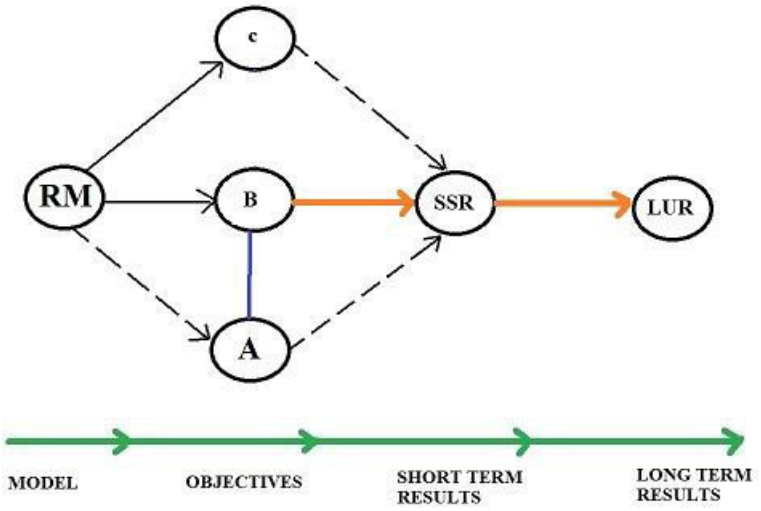


Figure 9 THE SOCIALLY FRIENDLY FOR PROFIT BUSINESS MODEL UNDER ENVIRONMENTAL COST EXTERNALIZATION

Figure 9 above shows that under the socially friendly for profit business model (BM = RM) both economic and social goals matter (AB), environment (c) exists only to make sure socially friendly profits are maximized, which means the model will have short-term sustainable results (SSR), but it will have long term unsustainable results (LUR) as negative environmental pressures accumulate creating critical environmental development problems to the point of full unsustainability.

The structure of the socially friendly for profit only model can be written as follows

BM = RM = ABc----------→ SSR----------→LUR,

as "c"is externalized.

And hence, when we maximized we see:

MAX(RM) = MAX(AB)MAX(c)---------→SSR_{AB}----------→ LUR_{AB}

Hence, as profit maximization expands, the environmental sustainability gap (SG = c) attached to it also expands, and when the accumulation of negative environmental sustainability gap pressures tends towards full unsustainability and become binding the red business model will collapse.

The business model under the socio-environmentally friendly profit lens

If profits (B) is made both socially and environmentally friendly (ABC) at the same time then we have a full conjunctural goal for profit model or a fully codependent for profit model known as the sustainability market (S), a structured detailed in Figure 10 below:

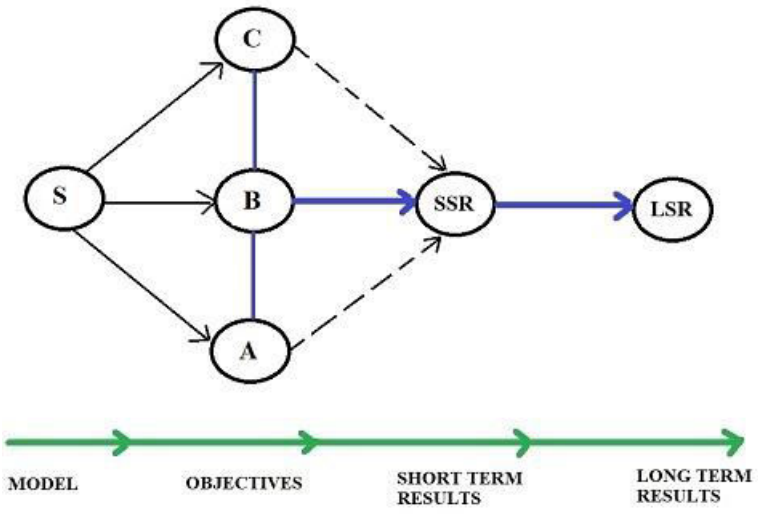


Figure 10 THE SOCIO-ENVIRONMENTALLY FRIENDLY FOR PROFIT BUSINESS MODEL UNDER NO COST EXTERNALIZATION

Figure 10 above highlights that under the socially and environmentally friendly for profit business model (BM = S) all economic, environmental, and social goals matter (ABC), and hence, there are no sustainability gaps (SG = 0) as shown by the broken arrows to SSR, which means the model will have short-term sustainable results (SSR) as well as long term sustainable results (LSR) as no negative pressures emulate from fully conjunctural profit structures.

The structure of the socially and environmentally friendly for profit only model can be written as follows

BM = S = ABC----------→ SSR----------→LUR,

as no externalization is taking place.

And hence, when we maximized we see:

MAX(S) = MAX(ABC)---------→SSR_{ABC}----------→ LUR_{ABC}

Hence, as profit maximization expands, you arrive to the optimum minimum profit balance as you can only optimize a fully conjunctural for profit interaction, which ensures short term and long-term profit stability.

Nesting the general for profit business management framework within the degree of the general possibility theorem as a general structural continuum and with the summary of general possibilities as Table 5 and Table 6 respectively

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Table 5

Nesting the for profit business management framework within the degree of the general possibility theorem as a general structural continuum

Level 1

Independent/separated structures ↔ General impossibility theorem

The only economic profit lens:

MAX(BM) = MAX(B)MAX(ac)---------→SSR_{B}----------→ LUR_{B}

↕

Level 2

Partially connected structures ↔ General bounded possibility theorem

The environmentally friendly profit lens

MAX(GM) = MAX(BC)MAX(a)---------→SSR_{BC}----------→ LUR_{BC}

The socially friendly profit lens

MAX(RM) = MAX(AB)MAX(c)---------→SSR_{AB}----------→ LUR_{AB}

↕

Level 3

Fully conjunctural structures ↔ General possibility theorem

The socially and environmentally friendly for profit lens

MAX(S) = MAX(ABC)---------→SSR_{ABC}----------→ LUR_{ABC}

Table 5 above tells us that fully non-conjunctural for profit business settings, only the economic profits objective as relevant leads to general impossibility. Partial codependent for profit business choice settings bring partial bounded rationality or partial possibility, be it green market bounded rationality or red market bounded rationality. And full conjunctural for profit choice settings lead to general possibility, short and long term profit sustainability.

Summary of nested general possibilities for the for profit business management framework

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Table 6

Nesting the general model management framework within the summary of general possibilities

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Level 1 → **Inconsistent relationships → Impossibility**

The only economic profit lens:

MAX(BM) = MAX(B)MAX(ac)---------→SSR_{B}----------→ LUR_{B}

Level 2 → **Partially consistent relationships → Bounded (partial) possibility**

The environmentally friendly profit lens

MAX(GM) = MAX(BC)MAX(a)---------→SSR_{BC}----------→ LUR_{BC}

The socially friendly profit lens

MAX(RM) = MAX(AB)MAX(c)---------→SSR_{AB}----------→ LUR_{AB}

Level 3 → **Consistent relationships → Full possibility**

The socially and environmentally friendly for profit lens

MAX(S) = MAX(ABC)---------→SSR_{ABC}----------→ LUR_{ABC}

Table 6 tells us that unilateral profit making objectives or fully non-conjunctural profit making objectives mean full general impossibility, partially consistent or partially codependent profit making objectives means partial general possibility, and fully conjunctural objectives or fully codependent profit making objective lead to full possibilities.

Implications

a) Placing the general model management model under different types of goal management arrangement scenarios help us see how each arrangement is valid within specific domains, a fully independent arrangement of goals under management or a one priority only goal is valid only in the impossibility domain; a partially codependent organized arrangement of management goals is valid only in the domain of partial bounded rationality. And a fully conjunctural arrangement of management goals is valid only in the general possibility domain; b) Applying the structure of the for profit business model to the general model management model when only one component is the priority leads to the structure of the traditional for profit model a la Adam Smith; and c) Placing the for profit business model under different types of profit management arrangement scenarios help us see how each profit seeking arrangement is valid within specific domains, a fully economic profit seeking only arrangement goal is valid only in the impossibility domain; a partially codependent organized arrangement of profit seeking goals is valid only in the domain of partial bounded rationality. And a fully conjunctural arrangement of profit seeking goals is valid only in the general possibility domain.

Conclusions

First, the foundations of a general management framework were established linking the relationship between objectives, their structural compatibility, and their short and long term sustainability outcomes. Second, the paper connected independent or separate objective with general impossibility, partially connected objectives to general partial possibility, and fully conjunctural objectives to general full possibility. Third, then the general management model when under one priority goal only was transformed into the for profit only maximization model to show different degrees of admissibility as the model shifts under increasing socio-environmental sustainability requirements. And fourth, the paper connected economic profit only maximizations behavior with general impossibility, socially friendly profit making or environmentally friendly profit making was linked to bounded general partial possibility, and socio-environmentally friendly profit making goes was paired with general full possibilities, a business situation that can be summarized in the following two ways chain:

Full impossibility <---→Partial bounded possibility <---→Full possibility

Economic	**Red market / green market**	**Sustainability market**
Profits only	**Profits**	**Profits**

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