A General Understanding of A Dynamic Sales Letter

A business is a machine that does productivity (outputs more than its inputs, where the unit is capital or Joules (where Joules can be exchanged for capital through any nearest exchange)).

The solution to capital efficiency is the exploitation of a technology/ies through the efficient assembly of a dynamic sales letter.

A Derivation:

Defining A Coordinate System
First we define a time-dependent business function based on current discounted future cash flow techniques.

The intrinsic value of a business at time, t, or $I(t)$ can be modeled by:

(1) $I(t) = Enterprise\ Value(t) + Assets(t) - Liabilities(t)$

Where

(2) $Enterprise\ Value(t) = DCF(t) + T_0(t)$

Where $DCF(t)$is the present value of the future cash flows up until a projection period (usually 5 years in most models):

(3) $DCF(t) = \int_0^{t_0} (FV(t))/(1+r(t))^t dt$

Where $FV(t)$is the levered free cash flow produced by the assets:

(4) $FV(t) = EBITDA(t) - Capex(t) - ChangesInWorkingCapital(t) - Taxes(t) - Interest(t)$

Where $t_0$is the time at which the projection period ends. Where the projection period is the maximum time an investor feels comfortable projecting the cash flows based on his/her information at hand.

Where $r(t)$ is the dynamic discount rate that represents the rate of return an investor is forgoing to participate in the company, and is usually around 9% or whatever the average rate of return the S and P 500 is spitting out or the local inflation rate.

Where $T_0(t)$ is the terminal value - the present value of the approximation of the future cash flows accumulated after the projection period, t_0 and in perpetuity, approximated by:

(5) $T_0\,(t) = FV(t_0) * (1 + g(t_0))/(r(t)\ - g(t_0))$

Where $g(t_0)$ is the terminal growth rate defined at the end of the projection period and is usually defined as the long term rate of inflation rate at t_0, or proposed GDP growth rate local to the investors valuing the entity at time, t_0.

Where, $Assets(t)$ are assets at the time of valuation, $Liabilities(t)$ are liabilities at the time of valuation, $Capex(t)$ is capital expenses at the time of valuation, $Interest(t)$ is the interest rate at time of valuation, and $taxes(t)$ are taxes at the time of valuation. These are all time-dependent - which means they can change as we go through time (they are not static).

The Resource Function, $R(t)$

We define an input resource function, $R(t)$ to be a function of time, input capital (human and financial of operators), and technology exploitable of the operators who operate $I(t)$:

$$R(t, tech(t), Capital)$$

Operator Function, $O(t)$

We define an Operator function, $O(t)$ to be a function that represents the use of resources through activities by the operators.

Operators operate on resources: $O(t, R(t))$ to do things and operate $I(t)$.

Bounds Of $I(t)$

$I(t)$ is bound by its operator's activities, defined with $O(t)$, and resources at time, t, $R(t)$. The better the operators apply resources, the more value they create.

$$I(t)\ = \int_0^t \quad O(R(t)) * dt$$

Measuring Return

If operators get a higher output than what they input, then: $\int_0^t \quad O(R(t)) * dt \,/\, \int_0^t \quad R(t) * dt\ > 1$

If operators get a lower output than what they input, then: $\int_0^t \quad O(R(t)) * dt \,/\, \int_0^t \quad R(t) * dt\ < 1$

Units Of $I(t)$ - Energy and Mass Conservation

The units of $I(t)$, $R(t)$, $O(t)$,$Capital, tech(t)$ are Joules, the unit of energy.

Intuitively, operators apply energy through calories and capital over time to rearrange physical things/mass by exploiting technology/ies. In a closed system where both the operators and the subjects on which they operate exist, energy is conserved.

Capital can be expressed in Joules through any energy exchange (like a gas pump), and fitness (the unit of benefit defined by biology or Hamilton's Rule) can be expressed in Joules through a conversion that converts replication potential to calories (I'll leave to you).

Intuitively, technology is the result of some operator/s (or technologist) applying energy at some point in time to mass over time to determine cause-effect ish relationships (loose definition of science).

$$tech(t) = ResourcesToMakeTech(t, mass(t), techCapital(t))$$

Where $mass(t)$ is the stuff the technologist rearranged and $techCapital(t)$ is the energy required to do the rearrangement.

Components Of $I(t)$

Practically, $I(t)$ "operates" on a set of customers, to provide a benefit or a transformation to that customer set, for a price one in the set exchanges for the benefit that is delivered through a mechanism/s.

A person in the customer set learns of the mechanism, its price, and takes part in the transaction through some conduit (the distribution channel)

We can model it using:

$$I(t) = I(N(t), T(t), P(t), M(t), A(t))$$

Where $N(t)$ is the niche vector that represents a single person or a set of similar people in a market segment at a point in time.

Its attributes include: size of market, location, behaviors, capital levels, forces acted on them, genes, and memes imprinted (beliefs). These attributes are all time-dependent (hopefully not genes, but you never know :)).

$T(t)$ is the transformation or benefit vector that represents a promise (or potential benefit) made to the niche, $N(t)$. **We can define a problem as the absence of a benefit, and the absence of a problem to be a benefit in the niche's reference frame.** It's time-dependent because the needs, expectations, and problems of the niche, $N(t)$ change with time and environment. **We can define a benefit to be a change of fitness, defined by evolutionary biology relative to the niche due to use of a mechanism through** $I(t)$. It can be positive or negative. Abstractly, the awareness of $T(t)$ by $N(t)$ causes intrigue and demand*

$P(t)$ is a vector that represents the price the customer set or segment, $N(t)$ is willing to pay to achieve the benefit,$T(t)$ through the mechanism, $M(t)$ (where M is defined below). It depends on the transformation vector, T(t) which also depends on the niche's ability to pay and/or its resource levels. It's measured in dollars or whatever currency the system uses. It's also time-dependent (meaning the price relative to a customer set can change as we go through time). The price is subject to the value of the currency in which it is expressed.

$M(t)$ is a vector that represents the mechanism with respect to time and it represents the tangible or intangible thing or set of things that deliver on the benefit, $T(t)$ for the price, $P(t)$, all relative to the niche, $N(t)$ assembled by operators. Its attributes include: Technology that is exploited by the operator to deliver the benefit, $T(t)$, $tech(t)$(which is defined in the resource function), the costs required to exploit that technology, and the costs required to deliver the mechanism in physical or digital space to a customer in the set, $N(t)$. These attributes are all time-dependent, but we won't get into all those here. In the traditional reference frame, it represents the output of engineering capacity within I(t).

$A(t)$ is a vector that represents the conduit through which the niche, $N(t)$ learns of all the other variables and purchases the mechanism, $M(t)$. We can call it the access channel vector. Its attributes include: The channel through which the niche is accessed (traffic channel), the cost to successfully use the channel (which is a function of the cost of a set of eyeballs and the funnel's efficiency), and the technology exploited to do so. These inputs are also all time-dependent. In the traditional reference frame, sales and marketing's output represents A(t).

In general:

$$\int_0^t O(R(t)) * dt = I(N(t), T(t), P(t), M(t), A(t))$$

The Theoretical Solving Order - Dependencies

Intuitively, you can't have a transformation or benefit without a customer set (a benefit relative to who?), you can't have a price without a transformation or benefit for whom that benefit applies (for what benefit are we charging?), you can't have a mechanism without a price or a benefit (by what constraints is our engineering team bound and what job does the thing need to do?), you can't have an access channel without a mechanism, a price, and a customer set since you can't derive a net contribution before marketing used to determine the bounds of the access channel (how much can we spend to talk to these people, and wait… who are we talking to anyway?).

Consequently, first operators solve for the customer set, $N(t)$, then the transformation, $T(t)$, then the price, $P(t)$, then the mechanism, $M(t)$, then the access channel, $A(t)$.

Practically, and if you are the operator, first you pick a person to help, then you define a fitness benefit and price for that person, then you exploit some sort of technology through a mechanism to deliver the benefit for a cost, $P(t)$ that is much less than the cost the customer traded to get the benefit,$T(t)$, then you distribute it at scale through $A(t)$ for a cost such that:

$P(t)$>> cost to build (inside M) + cost to sell (inside A)

Because all the variables of $I(t)$are dependent on $N(t)$, we can really just say that $I(t)$is dependent on the input variables of $N(t)$, which include the customer set's size, location, behaviors, capital levels, forces acted on them, genes, and memes imprinted (beliefs), and the ability of operators to apply resources - $O(R(t))$, and resources.

In other words, $I(t)$ is the intersection of the operator's ability to apply resources in an environment ($O(t)$), the resources and technology available to operators ($R(t)$), the environment that contains the customer set and the forces that act on that set ($N(t)$), and time (t).

Defining Productivity And The Optimal State Of I(t), B(t) - Product-Market-Fit State
Now that we have a coordinate system, we can describe what we want to achieve within the coordinate system.

Let's define the optimal state of $I(t)$ to be $B(t)$, and call this the B state - the theoretical most productive state or the product-market-fit state.

In this state, operators get the highest return in the shortest amount of time within the bounds of their environment and within the bounds of the resources available to them relative to the set on which they are operating and their competitors who operate on a similar set.

Within the "B state", return, $\int_0^t \quad O(R(t)) * dt \; / \int_0^t \quad R(t) * dt$ is at a maximum.

In the B state, within the environment and specific to a customer set, $N(t)$, the benefit, $T(t)$ addressed is most urgent, marketing costs approach 0 or physical minimum, sales cycle lengths approach 0 or physical minimum, COGs (cost of goods sold) approach the physical minimum that current technology exploited through the mechanism, $M(t)$ permits, price reaches the theoretical maximum (the price a monopoly would charge if it existed in the market), and cash quickly piles up in a checking account.

When I is in the B state:

$$I_B(t) \; = B(t)$$

B represents the maximum yield operators can achieve within the bounds of their input resources:

$$\int_0^t \quad O_B(R(t)) * dt = B(t)$$

Where $O_B(R(t))$is defined to be the operators operating in the B state and $I_B(t)$to be a business in the B state.

The greater the t delta for which operators operate in the B state, the more durable we say $I(t)$ is, and the more value is captured by $I(t)$'s operators and its shareholders.

The lower the cost/resources, $R(t)$required to operate in the B state, the greater the return on capital by $I(t)$'s operators and its shareholders.

The shorter amount of time it takes to get to B, the better the return for the shareholders.

Relative "Bness" **-** To get a high return, operators don't need to exist in B state absolutely, they simply need to be closer to the B state than their competitors relative to a customer segment, $N(t)$.

Solving For The B State: Defining A Few Problems The Solution Needs To Overcome

Timing Problem
Since the market: N, T, and tech are dynamic, the order in which businesses are built relative to the entire market is significant. Operators need to successfully intersect: tech, **awareness**, resources, engineering, and time. Poor timing is a result of not building fast enough, building the wrong thing, not having enough awareness, not using the right tech, or not having focus.

Focus and Limited Resources Problem
The solution to $B(t)$ needs to ensure operators don't run out of money as they are building and also that the operators stay focused to achieve the B state. Drifting from focus often results in failure. Here's why:

Solving for multiple B states (starting or running more than one business) or segments simultaneously is really complex:

For example: Solving for $B(t)$ in two independent environments implies operators are solving a 10 variable problem in a dynamic system instead of a 5 variable problem (which could be much harder than just twice as hard as solving for a 5 variable problem).

For three independent environments, operators are solving a 15 variable problem in a dynamic system instead of a 5 variable problem. The more environments, the less likely operators are to get to a solution to $B(t)$ for either of the environments. It is therefore very silly to start or operate more than one business at a time, especially when resources are constrained.

The less heterogeneous the customer set on which the operators operate, the more variables are introduced to the problem and the more complex it is to solve.

For example: Consider a $M(t)$ that satisfies $B(t)$ for both $N_1(t)$ and $N_2(t)$. $M(t)$ also needs to satisfy $B(t)$ with inputs: $T_1(t)$, $T_2(t)$, $P_1(t)$, $P_2(t)$ $A_1(t)$, $A_2(t)$.$B(t)$ is a 9 variable problem instead of 5.

For $N_1(t)$, $N_2(t)$, $N_3(t)$, $M(t)$ needs to satisfy$B(t)$ with inputs: $T_1(t)$, $T_2(t)$, $T_3(t)$, $P_1(t)$, $P_2(t)$ $P_3(t)$, $A_1(t)$, $A_2(t)$, $A_3(t)$. This is a 13 variable problem instead of a 5.

Addressing multiple segments with a single mechanism before solving $B(t)$ relative to a single segment, $N(t)$ is also silly or very hard.

"Chicken and Egg Problem"
Solving for $B(t)$ requires awareness with respect to the customer set. However, to get awareness, interaction with the customer set is needed. But, this interaction with the set is usually only found by "pitching" something to the set. But, one can't pitch without something to pitch. This creates a "chicken and egg problem." I put in quotes because it's not really a chicken and egg problem. It's obvious that we sell the solution or prove demand before we build if we want capital efficiency.

Speed - Moving Target Problem
Since $B(t)$ changes with time, to achieve $B(t)$operators need to observe/get awareness and understand the market $N(t)$, and build $M(t)$ fast enough so that $M(t)$ is still the solution to $B(t)$ by the time $M(t)$ is built - $M(t)$ is a moving target.

The rate at which operators get awareness, understand a market, and build determines the odds of their business satisfying the B state and capturing any value.

If the rate of change $N(t)$ or $T(t)$ is greater than the rate operators can adapt $M(t)$, $B(t)$ will not be satisfied and capital will not be efficiently used.

The Solution

The solution to $B(t)$ is a dynamic sales letter, $SL(t)$ assembled by operators using a dynamic resource-efficient process, $Assembly(t)$ that exploits a technology/ies, $technology(t)$.

Operators input capital, calories, time, and technology. They use an assembly process and output more capital.

Inputs	**Outputs**
Capital	Capital
Calories	
Time	

Technology	
Assembly Process	

Dynamic Sales Letter, SL(t)
The dynamic sales letter is a single dynamic document that defines and discriminates for the market segment, $N(t)$, proposes the benefit/s, $T(t)$, and the price $P(t)$.

It defines the protocol for which the mechanism, $M(t)$ is designed. The protocol is a more efficient method to get to benefit, $T(t)$than what already exists relative to the market segment, $N(t)$.

The sales letter is or is part of the access channel, $A(t)$, where the conduit that the market segment, $N(t)$ learns of the other variables is either the screen or paper on which it is printed*

The method by which it propagates is word of mouth driven by the utility, which is the result of the readers learning of the protocol for which the mechanism is designed*

If it goes viral, the cost to market (cost to generate a lead) approaches zero.

It causes sales, pre-orders, or signups that fund the building and/or maintenance of $M(t)$ or proves demand on which an investment thesis is built, sets the engineering constraints on the COGs (cost of goods sold of the mechanism), and determines the technology that needs to be invented or recruited to satisfy the benefit, $T(t)$ for the theoretical minimum cost.

It collapses all additional marketing activities down to only the transposition of a single argument to other modes (examples: websites, YouTube content) and the distribution of those transpositions through other media - the website is the html, css, javascript expression of the sales letter, so website designers just transpose the letter.

Salespeople (if they are required to sell the offer) simply read the sales letter and provide feedback to the author so that the sales letter is updated. They also need to communicate the sales letter effectively to the prospect and utilize closing technicals to achieve the highest sustainable closing rate.

The product and operations team expand and contract based on the lead flow and customer flow created by the resonance and success of the sales letter. This creates a “just-in-time” effect on product and operations.

The sales letter changes with time to meet the market $N(t)$ - which can be thought of chasing the market around until the benefit, $T(t)$ “bluntens” or the return on capital forces the business to expand further. At this point, $P(t)$ and $M(t)$ no longer satisfy $B(t)$. At this point, $T(t)$ is updated, along with the other variables to achieve $B(t)$.

As sales letters approach B state, cash is accumulating, operators need to expand operations to achieve a reasonable return on capital accumulated, which means they need to change the sales letter.

At this point, operators don't have a choice but to either address additional N vectors, which requires mechanisms to expand in complexity and robustness to meet multiple B states and preserve returns, or address another segment completely using learnings and capital gleaned from achieving the prior B state/s through a sales letter update.

Examples:
Btc whitepaper.
The Google thesis.

Dynamic Capital-Efficient Assembly Process
Theoretically, gaining awareness of market and technology, synthesizing insights, and applying those insights to create a dynamic sales letter and accompanying mechanism by exploiting a technology can be infinitely complex and expensive.

If we assume there is a set of tasks required to properly assemble a sales letter, we can assume there is an optimal order in which those tasks are executed, and optimal methods by which those tasks are executed - a framework.

When resources are finite and the operators are in a race against competitors, the assembly process needs to be productive, fast, and efficient or "good enough" to get close to the B state or at least closer to the B state than competitors. It also needs to achieve capital efficiency and this efficiency is determined by the amount of capital operators can access.

Furthermore, methods to gather awareness and build things are constantly changing, so the assembly process too is dynamic. It needs to account for the speed, moving target problem, and "chicken and egg" problem. The variables are solved by a loop.

General Assembly Process: