

A Failure of Infrastructure and Service Integration: The Case of US 6 093 403

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***W. Austin Spivey, Ph.D.
J. Michael Munson, Ph.D.***

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Abstract

Worldwide, the occurrence of Type II diabetes is outpacing population growth, and it will rank among mankind's main disablers and killers during the next few decades. The current dominant design for treating this scourge consists of four parts aimed at managing the disease: education and diagnosis; blood sugar monitoring; diet; and exercise. But what if a cure were possible, even without pharmaceutical intervention; better, what if diabetes could be prevented? In 2000, US 6 093 403 offered this promise: an herbal formulation will not only lower blood glucose levels, but also prevent Type II diabetes. Clinical trials showed evidence of the promise among human subjects, and experimental results supported by NIH funding implied that prevention was possible. This herbal formulation consisted of nothing more than plant extracts. Yet, the science-based entrepreneurs failed in their attempts to commercialize the promise. Why? The answer is a classic case of the failure in infrastructure integration and service: in the broader sense of missed connections across the entire value chain, not merely information technology.

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Presentation Flow

□ *The Scourge of Diabetes*

□ *Solutions*

△ *Dominant Design*

△ *A Patent*

□ *A Venture*

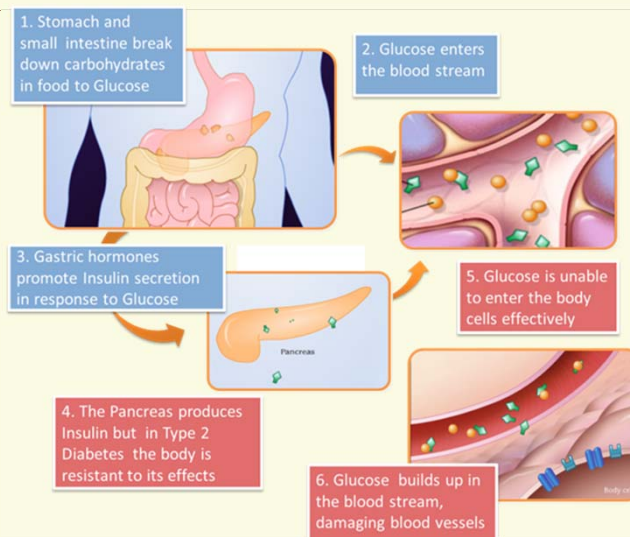
△ *Theory of Likelihood of Success*

△ *Theory of Balanced Ventures*

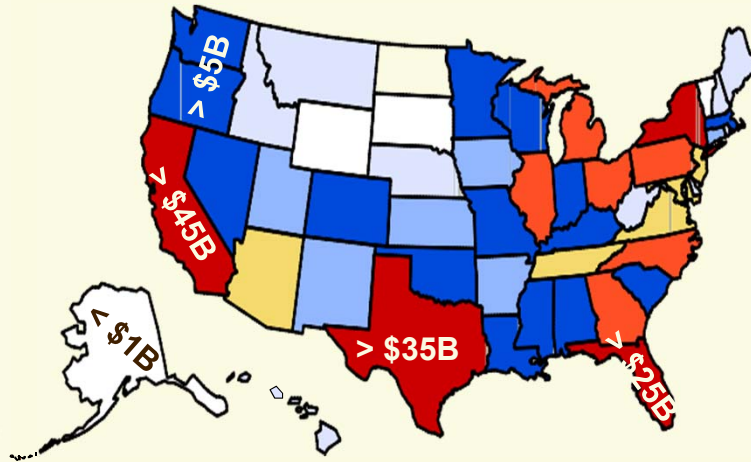
□ *Failures Across the Value Chain*

□ *Lessons to Learn*

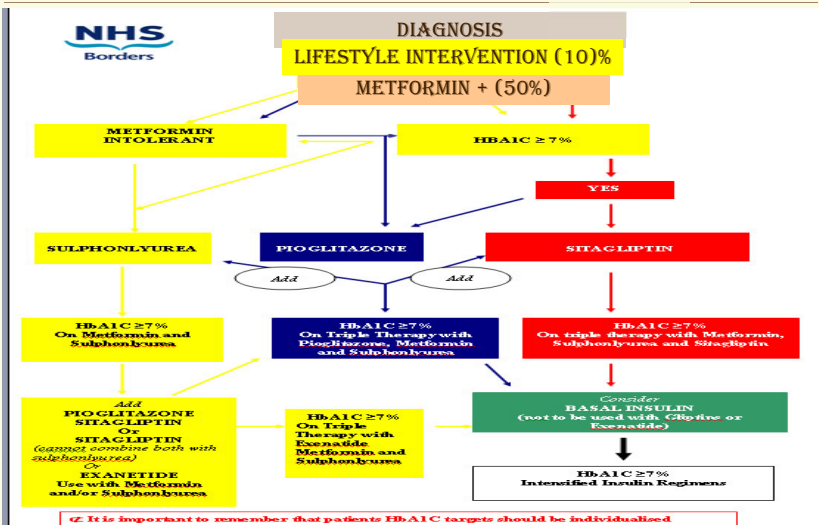
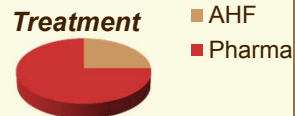
Type II Diabetes Mellitus... The Mechanism

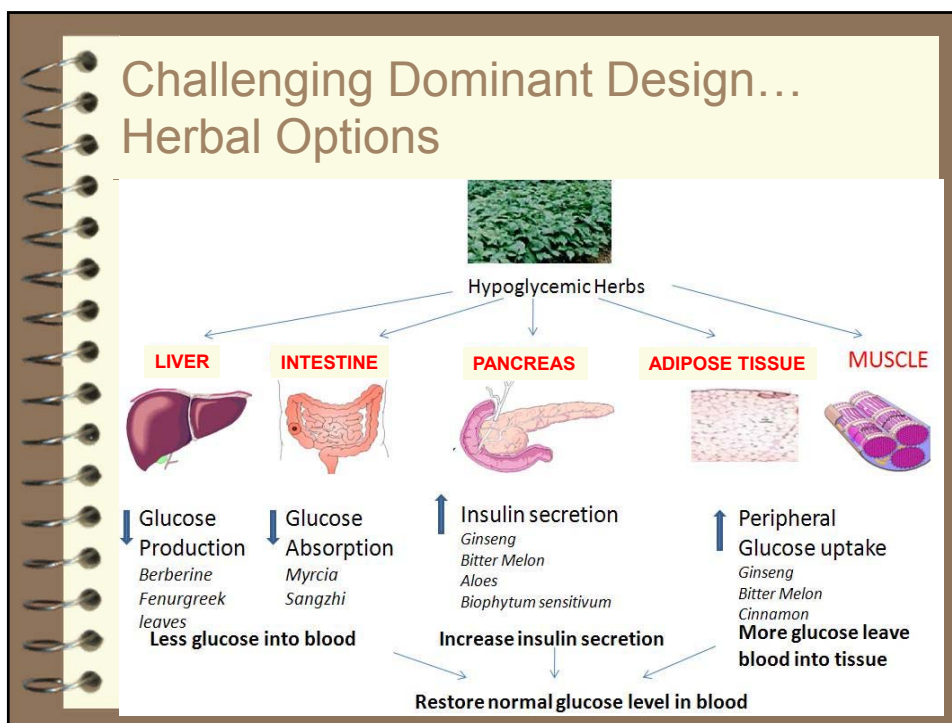


Type II Diabetes Mellitus, USA... Medical & Societal Costs > \$300B



Dominant Design... Treatment Protocol





A Patent... An Herbal Combination

United States Patent 6,093,403
Huo , et al. July 25, 2000

Sugar imbalance and diabetes treating herbal formulation

Abstract
 An herbal formulation is disclosed for treating and preventing non-insulin dependent diabetes mellitus (NIDDM) and other sugar imbalances. The herbal formulation is added to the diet of a person suffering from NIDDM in a lectin mixture containing the herbal formulation. The herbal formulation lowers the blood glucose and insulin levels. Adding the herbal formulation to the diet of persons who are in high risk of suffering from NIDDM has a significant effect on lowering blood glucose and insulin levels. Repeated doses of the herbal formulation in a lectin mixture will bring the blood glucose and insulin levels into a desired range. The herbal formulation is made from plant extracts and is useful in the **prevention** and **treatment** of sugar imbalances.

Inventors: Huo, Yu Shu (Dalian, CN); Lo, Sou Jen (Taipei, TW); Winters; Wendell D. (SA, TX)

Assignee: Phytocell Research, Inc. (San Antonio, TX)

Family ID: 22977997
Appl. No.: 09/257,842
Filed: February 25, 1999
Related Application Filed: Aug 1, 1997


A Patent... Collecting Ingredients

☐ Herbal Formulation

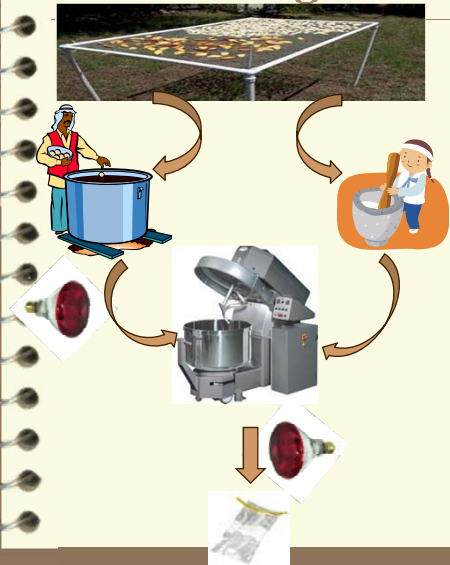
- △ 8 Roots
 - Ω Ginseng
 - Ω Licorice
- △ 3 Rootstock
 - Ω Yam
- △ 3 Fruits
 - Ω Raspberry
- △ 1 Fungus

☐ Procurement

- △ China + Mongolia
 - Ω Avoid Southwest
- △ Different herbs collected at different times of year



A Patent... Processing Formulation



☐ Processing

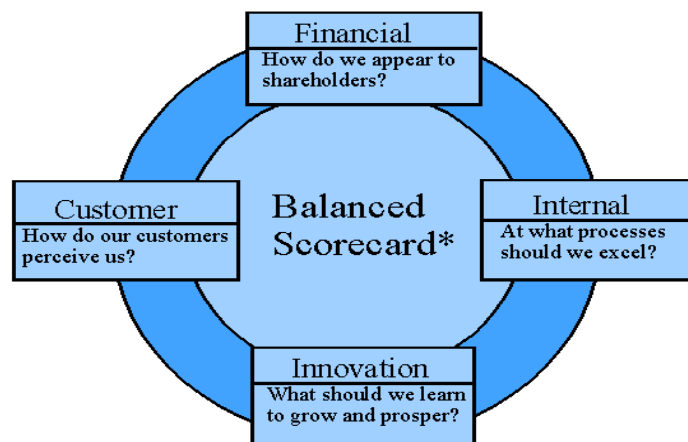
- △ Dry herbs
- △ Boil & filter some in water; Repeat; Dry Extraction
- △ Mill others
- △ Mix extraction & Milled herbs
- △ Sterilize with heat
- △ Dispense into sterile, 1000 gram bags

Theory of Success: NVS Scorecard

New Venture Success...the Likelihood

Successful Ventures...	Likely	Unlikely
Launch during period of economic growth	<i>PR Inc</i>	
<i>Enter emerging markets</i>	<i>PR Inc</i>	
<i>Enter markets with established technical standards</i>		<i>PR Inc</i>
Have product portfolios integrating market needs and technology development	<i>PR Inc</i>	
Integrate radical innovations		<i>PR Inc</i>

Theory of a Balanced Venture...



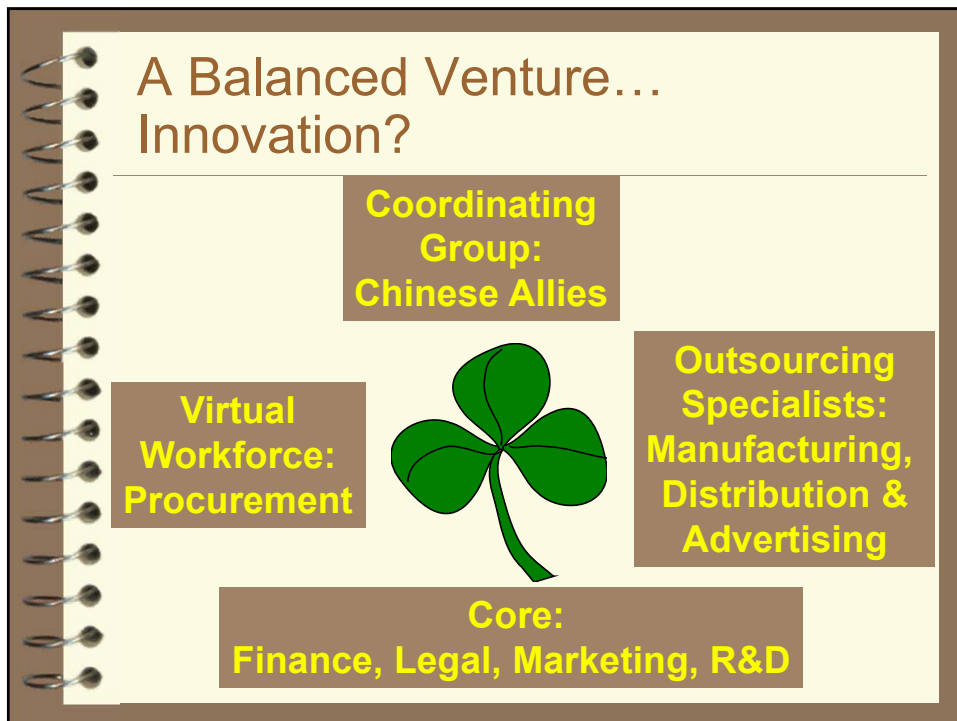
**A Balanced Venture...
Customer?**

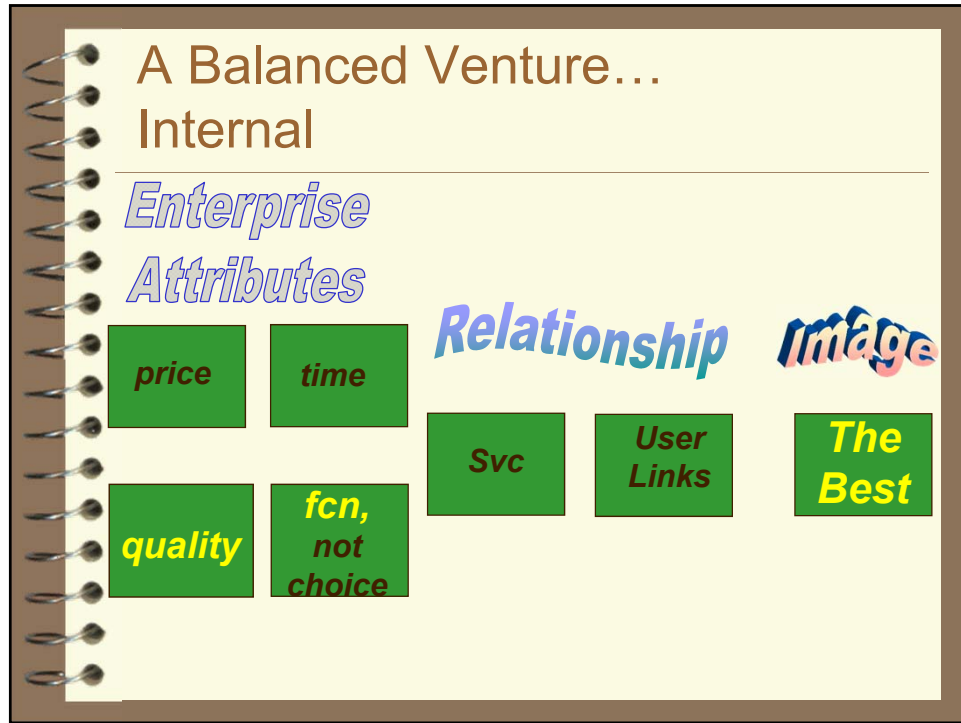
For anyone wanting to avoid the consequences of Type 2 diabetes, w/o pharmaceutical intervention,

SugarOut

both prevents and reverses elevated glucose levels in the bloodstream,

because its herbal formulation not only increases glucose uptake, but also repairs the pancreas.





A Balanced Venture... Financial?

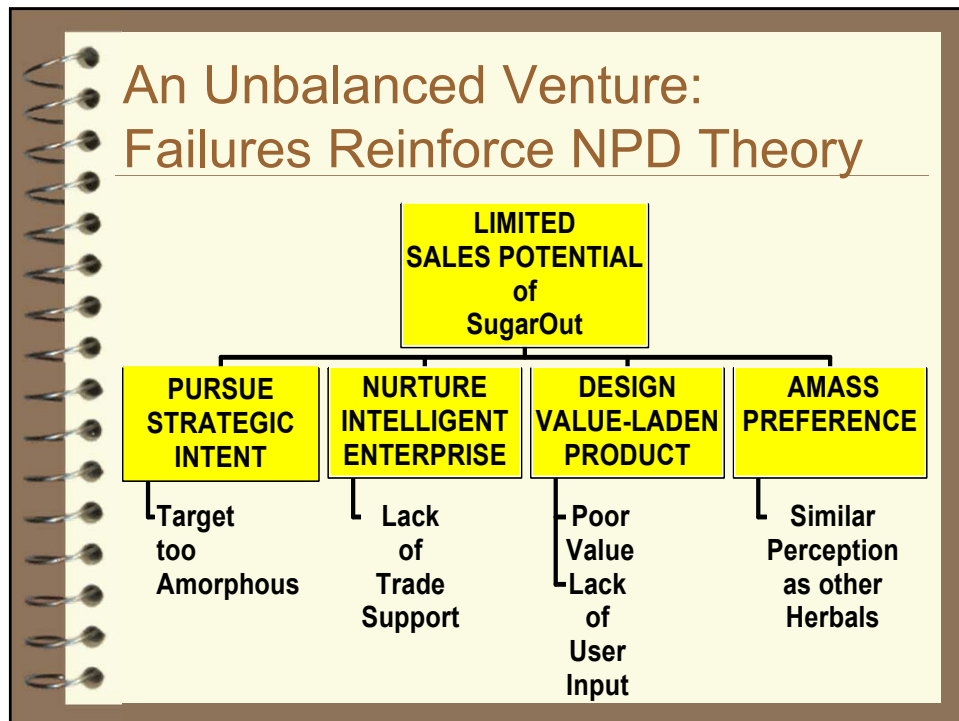
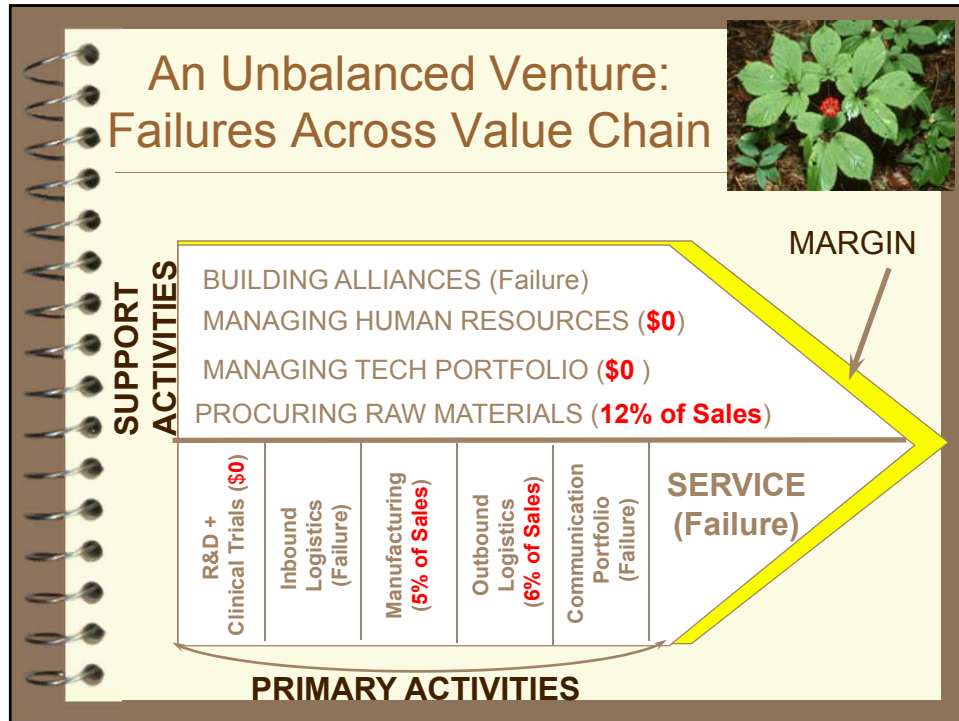
An e-Commerce SCENARIO...SugarOut

Reference: US Patent 6,093,403 awarded July 25, 2000

YEARLY MARGIN ANALYSIS:

		raw material	Enterprise Costs	supply chain	User Need
		per kg	Licensing Royalty	per monthly pkg	daily grams
		\$ 60.00	5%	3.75	\$ 5.00 6.0
Target Potential (Ideal Position):		1000's			
	US Diabetics, diagnosed	13,500	27 million in US		
	Long-Term Market Share, %	11			2,205 lb per kilo
	Potential Users (1000s)	1,454			2204.6 lb per metric ton
	Implied KG needed (1000s)	3,185	per year, at \$G\$9 grams per day!		265.43 tons per month
Yearly Revenue Potential:		\$ 1,570,605.53	% OF REV		
Cost Matrix:					
	Raw Material	\$191,111.57	12%		
	Licensing Royalty	\$78,530.28	5%		
	Manufacturing	\$78,530.28	5%		
	Pkg	\$65,449.17	4%		
	S&H	\$29,088.52	2%		
Yearly Gross Profit, Before HR or R&D:		\$1,127,896	72%		

BRAND	CONTENTS	PRICE	User DAILY DOSE	MONTHLY	EFFICACY	LACK OF SIDE EFFECTS
New Drug	30	\$ 15.00	1	\$ 15.00	8	5
New Herbal	60	\$ 67.49	1	\$ 67.49	5	8
Existing Herbals	90	\$ 17.79	6	\$ 35.58	4	7
SugarOut	6 grams per day	\$ 89.99	6 tablets	\$ 89.99	7	9
Metformin (w/o ins)	30	\$ 8.00	1	\$ 8.00	7	5



Lessons, Lessons...

□ Investor

- △ *Read fine print in spreadsheets*
- △ *Invest time to understand market*

□ Enterprise

- △ *Use resources wisely*
- △ *Demand full-time commitment from someone*

□ Entrepreneur

- △ *Have more than good intentions*
- △ *Have more than world-class science*
- △ *Have more than a patent*
- △ *Tell VCs what they want to know*
 - Ω *What you will do with money they invest*
 - Ω *Your exit strategy*

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