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On the Nature of Revenue

Not All Revenue Is Created Equally

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In startups and search fund acquisitions, entrepreneurs often pursue business opportunities based on their personal enthusiasm for the subject of the business. For example, a vegan baker may develop a business that caters to diets excluding animal-derived ingredients. While there is nothing wrong with seeking a company that links to a personal passion, entrepreneurs and executives (especially young, relatively inexperienced, first-time entrepreneurs) should gravitate toward businesses with promising economic characteristics.

Business models encompass many characteristics: customer concentration, profit, cash flow margins, capital intensity, and more. Entrepreneurship is an inherently risky proposition. Approaching it with a de-risking mindset by thoughtfully considering what can be done to increase the odds of success provides a bit of a tailwind. And it all comes down to model selection and economic characteristics. A desirable and compelling model provides a safety net of sorts, since the industry and economic model greatly determine the success or failure of a business.

Warren Buffet succinctly articulates this view with his often-quoted remark, “When management with a reputation for brilliance tackles a business with a reputation for bad economics, it is the reputation of the business that remains intact.”

Perhaps the most essential element influencing an industry’s economic model is the quality of its revenue. On first consideration, it might seem silly to think one revenue type is more desirable than another, since a dollar of revenue is a dollar of revenue. In reality, there are five distinct categories into which revenue typically falls, and they can have a significant impact on an entrepreneur’s success and the value of a business. These categories are described in more detail below, following the summaries.

Contractual recurring revenue describes a scenario in which customers are contractually bound and obligated to use a vendor’s service or products over multiple periods on a take-or-pay basis.

Non-contractual recurring revenue exists when customers subscribe to receive a product or service over a period of time, the amount of the product and the frequency of the delivery or service being regular and predictable. The customer must take action to stop the product or service from being delivered or rendered.

Repeat revenue is defined as identical customers making the decision to purchase products or services multiple times without the presence of contracts to enforce consumption. There may be behavior or system-switching costs involved, but no contracts or set schedules for

delivery or consumption are present. It is the customer's choice whether to purchase, and their action is needed to purchase each time revenue is generated.

Actuarial revenue exists on a predictable basis, using identical infrastructure and resources with successive customer cohorts. There are no contracts involved, switching costs are low, and customers tend to use a product or service only once, although a new cohort of customers are expected to emerge and generate revenue.

Transactional revenue is present when customers do not have contracts or switching costs, and there is little predictability and no actuarial pattern of consumption.

The nature of a company's revenue determines many things, including what consumes the CEO's time, how much creditors consider lending, how equity investors and potential acquirers value the business, who has more power in the vendor-customer relationship, the business's predictability and risk, and its equity-creation opportunity. While revenue quality is not the only determinant of entrepreneurial success—many factors impact the outcome—revenue quality is primary.

This note defines and examines the five categories of revenue listed above, to help aspiring entrepreneurs consider which is most suited to their business aspirations. It is best viewed in the context of how to tilt the odds in favor of a successful entrepreneurial outcome, whether in starting a business from scratch or in acquiring a company to launch one's entrepreneurial journey.

Contractual Recurring Revenue

Contractual recurring revenue is hands down the gold standard of revenue quality. It simply means that customers enter a legally binding arrangement in which they agree to consume a vendor's products or services over multiple periods. Cancellation comes with punitive separation fees borne by the departing customer. Entrepreneurs with contractually recurring revenue wake up on New Year's Day in the enviable position of knowing with near certainty what their revenue will be over the next twelve months. (Revenue is typically annualized based on the last month's revenue less anticipated attrition.) This means that the entrepreneur may focus on incrementally building revenue for the upcoming year rather than retaining or replacing revenue from the previous year. This is a nuanced mindset shift for the entrepreneur; when heading a contractual recurring revenue business, the entrepreneur is forward-looking and growth-oriented rather than needing to fret about keeping customers in place.

Think of it this way: If a CEO in a contractual recurring revenue business decides on the first of January to seek no new customers in the upcoming year, that CEO is still in the privileged and desirable position of deriving value and cash flow from the portfolio of customers retained from the previous year (less anticipated customer attrition and the one-time benefit of any separation fees). The CEO need not get a single new customer for the business to persist.

The economics of this type of revenue model are alluring and powerful. In a contractually recurring-revenue business, customer-acquisition costs are incurred once because the revenue associated with an acquired customer tends to endure. This also creates a compounding machine, a business where incremental growth is layered upon previously established customers. By contrast, in non-recurring revenue businesses, it is more challenging to build a compounding machine because the enterprise is continually replenishing customers, and customer-acquisition costs are incurred continuously.

There are many businesses that this wonderful category of revenue. One is ZircoDATA, an Australia-based document storage company, operated by Dennis Barnedt, a U. S. citizen. ZircoDATA stores hard-copy business

records for its customers in secure, offsite warehouses. Barnedt's business displays characteristics of contractual recurring revenue. ZircoDATA customers enter multi-period, non-cancellable, auto-renewing contracts. ZircoDATA knows that its customers are locked in; consequently, it has strong revenue visibility for future periods. With this fortunate revenue basis, Barnedt is primarily focused on augmenting revenue streams, not on retaining and replenishing current revenue streams. Of course, ZircoDATA is keenly oriented toward outstanding customer service to please its customer base, but its revenues are fairly sticky (having a high retention rate) no matter what. Barnedt is a one-person, value-creating machine; a thrice-successful entrepreneur, he has built successful records-management companies in the United States (Access), Europe (Oasis), and Australia (ZircoDATA). He clearly understands the value of a contractual recurring-revenue business, as he keeps building them.

Graham Weihmiller (Harvard Business School MBA 2003) is the CEO of BNI (Business Network International), a global franchisor of group networking services based in Charlotte, North Carolina. As a franchisor, BNI helps its franchisees establish and support peer-to-peer networking groups, where professionals share client referrals and business-development strategies. BNI operates in 70 countries and currently has over 9,500 chapters with over 270,000 members. BNI's contractual recurring-revenue is supported by renewable franchise contracts. Franchisors can be appealing as contractual recurring-revenue models because they collect an on-going royalty stream in return for supporting their franchisees' business activity, much like Weihmiller and BNI.

As a final example, Eyewitness Surveillance is a video security monitoring service based in Hanover, Maryland. Eyewitness Surveillance helps its customers (primarily auto dealerships) secure and protect their valuable assets through sophisticated technology that uses remote video and voice monitoring. Eyewitness customers enter multi-period, auto-renewing contracts. The company's customer retention is so high that its lead executives, Rush McCloy (University of Pennsylvania Wharton MBA 2005) and R.T. Arnold (University of Pennsylvania Wharton MBA 2005), have significantly grown their business over the past decade, focusing on adding new customers and building a compounding machine rather than retaining or replacing legacy customers.

While this category of revenue is certainly appealing, entrepreneurs must consider all its aspects. One shortcoming of contractual recurring revenue is that, with the exception of secular market growth, it is often difficult to attract customers who are already engaged in multi-period contracts with other vendors due to high switching costs. A more nuanced way to think about this dynamic is to compare customers who are currently vended (in a relationship with a service provider) to those who are unvended (not in a relationship with a service provider). In a mature industry with few unvended customers, it is quite challenging to grow organically.

Another factor to consider is whether the customer can cancel the contract. Some businesses offer contracts that can be canceled at the customers' discretion on 30- to 90-days' notice. These contracts may contain limitation-of-liability language and signal a genuine commitment by both parties to engage in a multi-period relationship, but since they can be terminated by the customer on short notice and with limited monetary consideration, they are less advantageous in terms of contractually recurring revenue. Contracts that allow customers to exit with a short-term notification more often resemble a pricing arrangement, master services agreement (MSA), or service level agreement (SLA).

The contract characteristics that should be sought and established in the ideal contractual recurring revenue model are (see **Exhibit 1** for a sample anonymized contract with many of these features):

- *Take-or-pay features:* Customers are required either to consume defined levels of goods or services or to make minimum payments whether or not the customer uses the service.
- *Assignability:* Contracts are assignable to another party at the vendor's discretion, and no customer consent is required for the assignment. This is a particularly important feature for the vendor if the company is being sold or the company is seeking debt or equity financing.

- *Limitation of liability:* The vendor has a maximum dollar liability when providing goods or services to the customer. This vital feature eliminates unlimited liability risk.
- *Ability to raise the price:* The vendor has permission to raise customer pricing without requiring customer consent at an unlimited or predetermined rate. This eliminates the risk of pricing deflation and the painful operational dynamics of seeking customer approval for a change in pricing. Increasing pricing by a few percentage points is a potent lever for an entrepreneur to pull when building a business, whether the price increase is purely accretive to the business or motivated by rising costs of production or a poor economy.
- *Separation fees:* Charges are incurred if the customer terminates the contract in or out of period. This type of charge is a form of liquidated damages and increases customer switching costs. It is akin to a loan-termination fee or a back-end fee in a mutual fund.
- *Auto-renewing:* Contracts automatically renew with like terms and duration without the vendor or customer needing to take action to effectuate the renewal. “Evergreen” contracts (contracts that automatically renew under substantially the same commercial terms as the original agreement) remove the vendor’s administrative burden of seeking renewals and negotiations with customers. If a customer plans to terminate a contract, the cancellation requires advance notification (often 90 days) in writing. This increases customer “stickiness.”

Non-Contractual Recurring Revenue

Non-contractual recurring revenue exists when customers subscribe for products or services to be delivered or rendered, such that both the amount of the product and the frequency of the delivery are regular and predictable. The customer must take action to stop the product or service from being delivered or rendered; the consumption pattern rolls on unless the customer actively terminates the delivery. This type of revenue is sticky but not as sticky as contractual recurring revenue. An entrepreneur in a non-contractual recurring–revenue business enjoys a high degree of confidence in future revenue visibility. Customer-switching costs are often low, and the absence of contracts generally leads to higher customer attrition than in contractual recurring revenue–business models. Non-contractual recurring–revenue models often have some behavioral or system impediments to prevent customers from switching.

A non-contractual recurring–revenue business is one where a long-term relationship is established without a contract in place. The nature of the relationship makes the behavioral consumption pattern somewhat sticky but not binding. Professional services often fall into this category. Commercial insurance–brokerage services, for example, tend to have very sticky revenues. Joe Smith (Saint Anselm College 1989) is the CEO of Smith Brothers, a super-regional commercial insurance brokerage based in Glastonbury, Connecticut, with \$40 million in annual, non-contractual recurring revenue with an average customer-retention rate of 94%. Despite the absence of contracts, the company’s clients tend to return to the firm annually for their insurance needs, not only because Smith is a great person but also because the firm is simple and easy to use. The insurance firm and broker know their clients’ needs and preferences intimately; clients find it more comfortable to use the same commercial insurance agency year after year.

Another form of a non-contractual recurring–revenue business is the subscription model. A classic example of this model is the newspaper, where customers subscribe to the publication on a perpetual basis, and the newspaper is delivered unless the customer actively terminates the subscription. Cable television is another example, customers pay monthly fees to the cable television provider without signing a long-term contract, and the revenue

recurs with a high degree of predictability. Newspapers and cable television providers may even enjoy mini geographic monopolies, which create high customer-switching costs and increase the likelihood of customer retention.

Many software services also have characteristics of non-contractual recurring revenue. Microsoft, for example, markets its ubiquitous Microsoft Office software as a subscription service. The customer pays an annual fee to use Microsoft Office without ever purchasing and owning the software. Once a customer becomes a practiced user of Word, Excel, and PowerPoint, there is a high degree of persistence in the consumption pattern. Microsoft annually charges a credit card for use of its software, unless the customer actively terminates the subscription. Other examples of non-contractual recurring-revenue models include media-services providers, personal styling services (such as Stitch Fix), gym memberships, and product-of-the-month clubs (such as fruit of the month or wine of the month).

It is important to note that non-contractual recurring-revenue models primarily operate with a “carrot” versus “stick” approach. They must do their best to delight customers with superior products, services, enhanced features, and solutions. While it is always best to lead with the carrot, however, it is also advisable to have a stick available in the form of a bulletproof contract. When a customer is dissatisfied, it is best to try to appease the customer and then remind the customer that the contract exists. In essence, this provides the vendor a chance to address the customer’s concerns and retain the customer. In the absence of a contract, customer defection is easier and more rapid. Non-contractual revenue models lack this option, unlike contractual recurring-revenue models. All things being equal, it is better to have sticks.

Even within these categories, not all revenue is equal. Perhaps the biggest differentiator is the retention rate of the revenue streams. A non-contractual recurring-revenue business with a 90% revenue retention rate is far superior to a non-contractual recurring-revenue business with 50% revenue retention. Therefore, when evaluating companies with this type of revenue model, it is important to understand customer retention patterns, which tell whether the non-contractual recurring revenue is desirable.

Repeat Revenue

Repeat revenue exists when the same customers purchase products or services multiple times without the presence of contracts to enforce consumption. The occurrence of behavior or system-switching costs may be in place, but no contracts or set schedules for delivery or consumption are present. It is the customer’s choice to purchase, and their action is required each time revenue is generated.

A classic example of a repeat-revenue business is any organization with a “razor-blade” structure. This term refers to the concept of purchasing a razor (a one-time, fixed purchase) and repurchasing blades for it (a habitual and consumable purchase). What makes this system work is the fact that the blades are uniquely fitted to the razor; not just any blade will work. Businesses may even subsidize the “razor” part of the system and seek to optimize pricing on the repeating, consumable part of the system. For example, desktop printers are sold at a loss or at cost, with the understanding that their ink cartridges, which only work for the printer they were designed for, are marked up for high profits.

Repeat-revenue business models enjoy many of the same benefits as contractual recurring-revenue businesses. Without the benefits of a contract, they also are closely related to non-contractual recurring-revenue businesses, except for the fact that the customer must take action to create a revenue-generating event.

Many consumer products with strong brands fall into the repeat-revenue category. For example, people tend to purchase the same deodorant repeatedly over long periods of time. Despite this revenue persistence, it is up to the customer to consciously initiate the consumption of the product or service; it does not happen automatically,

as it does in other, recurring-revenue models. For consumer-branded products, switching costs are minimal, and a once-loyal, repeat customer may move to another brand without any friction.

Light Wave Dental CEO Justin Jory (Brigham Young University JD/MBA, 2007) and his partner, CFO David Wurtzbacher (Harvard Business School MBA, 2017), operate a 20-store dental practice in the mid-Atlantic region. Jory's business model is based on repeat revenue. Light Wave Dental customers (i.e., patients) tend to see the same general dentist biannually for preventative dental care. Although Light Wave cues customers for the need to make an appointment, it is solely up to the customer to make the appointment and show up for it. There is a high incidence of repeat revenue, but if a customer relocates from Virginia to Seattle, for example, where Light Wave does not operate, that customer is lost. Switching costs are low, and no contracts are in place.

Businesses who serve other businesses (B2B) tend to have more persistence in repeat-revenue models than businesses that serve consumers (B2C). For example, if a sizeable, multi-site corporation purchases office supplies from W.B. Mason, a large supplier of office products based in Brockton, Massachusetts, the customer may negotiate preferred pricing and enforce limitations on what its various branches can and cannot order. There may be system-wide procedures for accounting and reporting as well as guaranteed delivery times. For the customer, jettisoning Mason and engaging a new vendor is difficult and complicated; it may take a great deal of time and effort for little reward. Thus, this revenue tends to repeat because of corporate inertia. Contrast this with an individual consumer who is not encumbered by such complexities and organizational infrastructure, where switching from one vendor to another is often quite easy. Generally speaking; therefore, B2B is better for revenue persistence than B2C in repeat-revenue models.

Actuarial Revenue

Actuarial revenue is yet another form of revenue quality. This type of revenue occurs when a new cohort of customers consumes goods or services on a predictable basis, using the same, previously established infrastructure, systems, and processes. No contracts are in place, and customers cease to be target customers once the goods and services are consumed.

Jostens is one of the most notable of actuarial recurring-revenue businesses. Founded in 1897, the Minneapolis-based company is a one-stop-shop for graduation memorabilia. Jostens manufactures and markets class rings, yearbooks, diploma frames, and academic regalia (i.e., caps and gowns), addressing all high school and college graduation needs. According to *Inside Higher Ed*, there are approximately 3.5 million graduating high school seniors each year in the United States,⁴ representing a brand-new set of target customers for Jostens. What happens to Jostens customers after they purchase their rings, yearbooks, and diploma frames? They are gone and must be replaced the next year, as people tend not to buy high school class rings more than once. The nature of the actuarial-revenue business-customer relationship tends to be "one and done." The resources that Jostens uses, its sales team, its manufacturing and distribution infrastructure, and its customer-service programs are leveraged and redeployed annually toward a new cohort of customers.

This is a desirable revenue model, but not as attractive as recurring- or repeat-revenue models. The actuarial-revenue business knows that each year, it will be presented with new prime customers. The company will use the same infrastructure and systems each year to make sales, but it does require marketing to the new target customer cohort on an annual basis.

Randy Shayler (Harvard Business School MBA 2012) is the CEO of Zeswitz Music, a musical instrument-rental company based in Reading, Pennsylvania. Zeswitz predominantly rents musical instruments to elementary, middle school, and high-school students in school-sponsored music education programs. Each year, Zeswitz markets to a new cohort of aspiring musicians in need of instrument rentals. Shayler's customers tend to rent instruments for

a few years before they either quit or purchase instruments of their own, meaning that each year, Zeswitz rents to a new, fresh crop of potential musical prodigies.

The University of Chicago and Yale University also have actuarial revenue—business models. Each year, a new crop of talented and eager students arrive on campus. These students are customers for two years in the MBA programs but once they graduate and move on, the next year brings a new set of students. Chicago and Yale are tax-exempt organizations, but a similar revenue model dynamic exists with for-profit vocational schools. Nick Mansour (Stanford MBA 1996) operates for-profit Arizona College in Glendale, Arizona. Arizona College focuses on careers in healthcare, including nursing, medical assisting, dental assisting, pharmacy technician, health information technology, and massage therapy. The college has been educating students for over 25 years and welcomes a new crop of students annually.

Although general dental services, as mentioned above, is a repeat-revenue business, a subset of dental services—orthodontia—qualifies as an actuarial-revenue business. It is an adolescent rite of passage to visit the orthodontist to have teeth aligned, straightened, and burnished for cosmetic and medical reasons. This occurs with relatively predictable patterns; once the patient’s teeth are perfect, they have no further need of the orthodontist. The office infrastructure, marketing, and intellectual capital to perform the services are all used annually on a new set of customers. Dr. Michael Friedman is a good example; he operates a thriving orthodontics practice in Southbury, Connecticut. Over the past three years, he has averaged 541 new customers (patients) per year. Additionally, he graduates 529 patients a year, turning over nearly the entire cohort. (Although MBA graduates are not expected to take up medical careers, the acquisition and consolidation of specialty medical fields is a popular entrepreneurial endeavor and strategy. The mention of medical practices should be considered in this context.)

Actuarial recurring revenue has the potential to provide a predictable stream of new customers to a business. Still, this type of revenue is often less desirable than contractually recurring revenue or repeat revenue, as its customer base must be replenished. This makes it harder to build a business as a forward-looking, compounding machine since the actuarial revenue CEO must be focused on continually replacing the vanishing customer base.

Transactional Revenue

The final form of revenue to explore is transactional revenue. This form has many names—for example, “project,” “one-time,” and “episodic”—which denote the non-recurring nature of the revenue. It is the least desirable revenue profile, which isn’t to say that there cannot be highly successful businesses with transactional revenue; financial success is just a bit more challenging. Transactional revenue is generally characterized by the selling of goods and services with low switching costs, no contracts, and no actuarial visibility on revenue-consumption patterns. Customers may be more convenience-driven and price-sensitive when making purchasing decisions and may frequently jump between vendors.

Grocery stores serve as a common example of this form of revenue. In most communities, there are several supermarkets where customers can shop. Perhaps there is a local supermarket owned and operated by a community member; a large, regionally-branded supermarket (such as Stop & Shop); and a luxury outlet (such as Whole Foods). All of these venues have non-recurring revenue. Consumers may choose among the locations, and there is no guaranteed contractual revenue in place. Some consumers may optimize around price and others around convenience, but every one of them makes a new purchase decision every time they need groceries. Furthermore, with the plethora of online suppliers, meal box services, and on-demand, food-delivery services acting as substitutes, there are no revenue guarantees here.

Transactional revenue businesses work continually to retain and replenish customers. They do not enjoy the pyramiding nature of contractual recurring—revenue and repeat-revenue businesses. The focus of the non-

recurring revenue business CEO is generating sales—not necessarily incremental sales, but sales to fill the immediate profit-and-loss statement. This is in distinct contrast to recurring-revenue models, which enjoy legacy revenue streams going into the year or month.

Mark Agnew (University of Chicago Booth MBA 2006) is the former CEO of the renowned, Chicago-based, deep-dish pizza restaurant chain, Lou Malnati's. Agnew joined the company in 2011, four decades after it was established, and did an excellent job of building, accelerating, and expanding the business to 56 locations blanketing the Chicagoland area, with 3,800 employees. He established outposts in cities like Phoenix for relocated Bears fans who need a deep-dish fix. While Lou Malnati's enjoys great success thanks to Agnew's leadership, it must continually focus on generating revenue, as none of it is guaranteed. The chain's established brand helps build customer loyalty and return business, but on any given night, a prospective pizza eater can easily select an available substitute.

Transactional-revenue businesses with episodic indirect sales are in a more challenging position than Lou Malnati's. The absence of an established brand and regular direct interaction with customers who make purchases on a repeat basis makes customer engagement difficult and revenue less predictable. Progressive Bronze, another Chicago-based business that sells long-lasting goods through distribution, serves as an example of this difficulty. Progressive Bronze manufactures and repairs metal religious and funeral products. Under the brand name Excelsis, Progressive produces high-quality candlesticks, crucifixes, and tabernacles. None of Progressive Bronze's revenue can be characterized as recurring, repeat, or actuarial. It is a project-revenue business whose customers (churches) purchase these long-lasting goods infrequently (years between purchases) through a local distributor. Its former CEO, Matt Littell (Northwestern University Kellogg MBA 2007), was continuously focused on generating revenue. Unfortunately, during the 2008–2009 recession, due to customer consolidation and purchase delays, revenue atrophied dramatically and sent the business into a tailspin. With no base of recurring, repeat, or actuarial revenue, the company struggled to stay on course.

In short, transactional-revenue businesses face more challenges than other revenue forms. They may be forced to compete with many substitutes; their products or services may be more of a “want” than a “need,” making it easier for customers to delay purchases. With transactional-revenue models, fledgling entrepreneurs do not enjoy a base of revenue from which to build; rather, they must focus on replenishing revenue, as there is no locked-in revenue stream. Transactional revenue is certainly not inherently bad; there are many very successful transactional-revenue businesses, including Lou Malnati's. However, a transactional-revenue model may prove to be more challenging for a young, first-time, inexperienced entrepreneur, as it lacks a safety net.

Customer Lifetime Value

One way to think about the economic impact of revenue quality is by using the customer lifetime value model. This model helps entrepreneurs understand the value a customer (or potential customer) delivers by addressing three critical components: the capital investment required to attract and establish a new customer, the profitability of the customer, and how long the customer is expected to be retained. Disregarding generally accepted accounting principles, this model focuses on the cash dynamics of the customer relationship over multiple periods rather than over a single year.

The formula is adapted from *Marketing Analysis Toolkit: Customer Lifetime Value Analysis* by Professors Thomas Steenburgh of UVA Darden School of Business and Jill Avery of Simmons School of Management.⁵

$$CLV = m * ((1 + i) / (1 + i - RR)) - AC$$

- *m* is the contribution margin generated by a customer per year in dollars,
- *RR* is the annual retention rate of a customer, expressed as a percentage,
- *i* is the company's discount rate, and
- *AC* represents the customer acquisition costs incurred by the firm.

To illustrate this concept, imagine five companies, each representing one revenue category. Each has a customer who generates \$100 of revenue and produces \$30 of contribution margin. Each company has an identical discount rate of 15%, and it costs the same \$60 to acquire a new customer in each case. The only difference is the customer churn rate or the rate at which customers depart each year. Churn rate is what impacts revenue quality.

As **Table 1** demonstrates, the five companies representing the five types of revenue experience very different customer lifetime values due to retention rates. This is intuitive, as a contractual recurring-revenue business tends to enjoy very high customer-revenue retention. This means that entrepreneurs can invest substantially more in acquiring customers, benefiting from the subsequent cash flow streams for longer than in other revenue models. Simply put, profitable customers who remain customers for extended periods of time are superior to shorter-term customers.

Table 1: Customer Lifetime Value Analysis by Revenue Category

Revenue Category	Revenue	Contribution Margin	Contribution Margin	Churn Rate	Retention Rate	Discount Rate	Gross CLV	Acquisition Costs	Net CLV	ROI
Contractual recurring revenue	\$100	30%	\$30	2%	98%	15%	\$203	\$60	\$143	238%
Non-contractual recurring revenue	\$100	30%	\$30	15%	85%	15%	\$115	\$60	\$55	92%
Repeat revenue	\$100	30%	\$30	30%	70%	15%	\$77	\$60	\$17	28%
Actuarial revenue	\$100	30%	\$30	100%	0%	15%	\$30	\$60	(\$30)	(50%)
Transactional revenue	\$100	30%	\$30	175%	(75%)	15%	\$18	\$60	(\$42)	(70%)

Source: Prepared by the case writers

Climbing the Revenue Ladder: Two Mini Cases

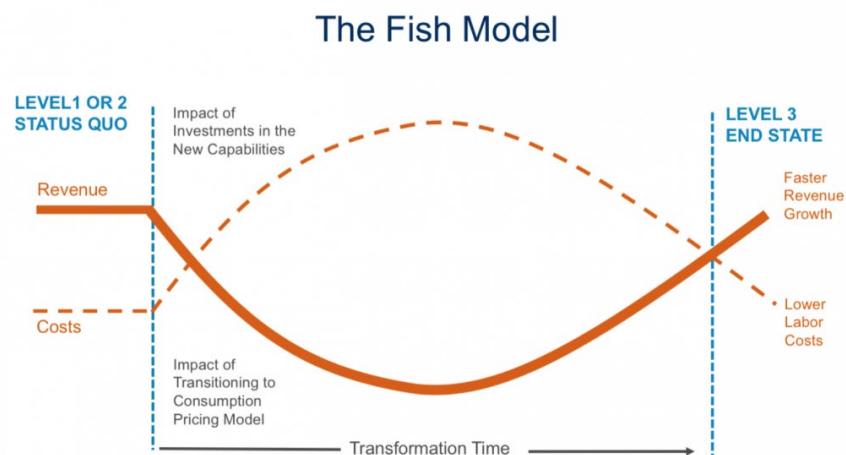
Mini Case 1: Applied Data Corp

In an attempt to mitigate risk and create value, entrepreneurs operating transactional-revenue businesses may attempt to climb the revenue ladder from this type of revenue to a more attractive revenue model. It should be noted, however, that this transition is not as easy as it may look on a spreadsheet. In fact, this transition often comes with great risk and operational complexity.

Shamus Hines (Chicago Booth MBA 2014), CEO of Applied Data Corp (ADC), embarked on a transition from a license fee–maintenance model to a software-as-a-service (SaaS) model for the fresh-food industry software provider, describing it as a high-risk, high-reward proposition. The traditional license fee–maintenance model usually collects an up-front fee from the customer for a perpetual license to use the software. This is a one-time fee for an unlimited-use, perpetual license. Maintenance fees, while contractually recurring, represent a smaller percentage of ADC’s total revenue than the one-time, up-front fees. These fees may be viewed as service payments to a software company for continued support of the application and access to upgraded software versions and to the help desk. SaaS, on the other hand, is contractually recurring in nature and sold as a subscription to the customer. In this model, the client of the software company does not own the software but rather rents access and receives service and ongoing support from the software company.

The transition from license-fee maintenance to SaaS can be extremely rewarding; SaaS companies are often valued on revenue multiples as opposed to the more modest EBITDA multiples applied to their license fee–maintenance model counterparts. However, moving to a SaaS-based pricing model has major implications on the business (see **Figure 1** for a graphical depiction of the transition). One example involves revenue recognition and cash collection by a software company. Many software companies that rely on license fees become dependent on the upfront collection of fees; thus, a transfer to a SaaS model is challenging in terms of cash flow. Often referred to as the “valley of death,” this transition will naturally lower near-term revenues for a company during the transition, and near-term cash collections can be significantly lower than with a legacy revenue model. It is critical in this situation to fully understand the revenue and cash-flow implications of such a transition to avoid solvency and lender challenges.

Figure 1: The Fish Model: Transitioning from an Up-front Revenue Model to a SaaS Revenue Model



Source: “Will Every Business Evolve Into A Subscription Business Model? Creating Transition Strategy.”

<https://www.inplayer.com/evolve-subscription-business-model/> accessed March 28, 2020.

While ADC's transition example carries a great deal of operational and financial risk, there are several examples of revenue-model transitions that are less risky and less complicated and that bring significant value-creation potential. Take, for example, the commercial HVAC company that begins selling annual system-inspection services. In addition to their transactional, response revenue, they have created a predictable stream of recurring (or at least repeat) revenue. In a B2C example, Vail Resorts (NYSE: MTN) introduced the revolutionary Epic Pass, changing the way people pay for ski lift tickets by offering season-long, unlimited access to their affiliate mountains, while some skiers still choose the per-day option.

Mini Case 2: Amazon⁶

Amazon (Nasdaq: AMZN) is an interesting example of a company climbing the revenue ladder. In the context of online bookstores, customers generally purchase a book, and it is in their hands within a day or two. This is transactional revenue where customers experience low switching costs if they choose to purchase additional books elsewhere.

Climbing the revenue ladder, Amazon simplified the purchase of sundry goods, driving repeat revenue. Rather than losing customers after their book purchases, Amazon now retains customers who purchase other goods and services through their own volition. Amazon converts transactional users to repeat users through systems, infrastructure, and behavioral patterns.

Furthermore, Amazon continues to ascend the revenue ladder with consumable items, for example, soap. During checkout, Amazon offers the opportunity to subscribe to this purchase, meaning that the customer can opt into receiving soap on a schedule, for example, quarterly. With that, Amazon climbs the revenue ladder from transactional and repeat revenue to non-contractual recurring revenue. By seeking to convert a transactional or repeat purchase to a non-contractual recurring-revenue purchase, Amazon increases the probability of future revenue streams, smoothing out its income by shifting erratic revenue to more predictable revenue and locking in a customer who must now take action to dislocate the revenue stream.

In addition to this tactic, Amazon has introduced Prime, the Amazon membership model, which allows customers to access an array of services, including music, videos, photo storage, and rapid shipping, for an annual fee. This fee is automatically charged to a credit card each year, unless the customer opts out in advance—a wonderful example of contractual recurring revenue in one-year increments.

Finally, Amazon's data storage service, AWS (Amazon Web Services), requires no multi-period contracts for individual customers, but large customers, such as Netflix, do engage in multi-period contracts. This is an example of climbing the revenue ladder to contractual recurring revenue.

Conclusion

Aspiring entrepreneurs, whether purchasing an existing business or starting a business from scratch, should make decisions with the aim to tilt the odds toward a successful outcome and to lower risks. Economic characteristics (how the business model works) serve as a key driver, increasing or decreasing the odds of entrepreneurial success. One of the most essential characteristics to consider when acquiring or starting a business is the nature of a business's revenue.

Although contractual recurring-revenue businesses are generally superior to those with transactional-revenue models, a contractual recurring-revenue business that is atrophying will likely be inferior to a robust, growing, transactional-revenue business. However, the nature of revenue must be contemplated in the context of the

business and industry as a whole. There are many other factors that must be synthesized into a complete analysis of what makes a desirable business and industry.

While aspiring entrepreneurs should jump into whatever business entices them the most, they should do so with eyes wide open, understanding that it is generally easier to participate in an industry with many winners than in an industry with sparse winners. A business's revenue characteristics are a crucial consideration when contemplating what business to stake out in an entrepreneurial adventure.

Recurring-revenue models, especially contractual recurring revenue, give an entrepreneur (particularly a young, inexperienced, first-time CEO) a safety net. With a backdrop of known revenue streams, the entrepreneur can focus on successfully operating other parts of the business or on building and growing the established revenue base. It is a wonderful feeling for an entrepreneur to wake up on New Year's Day and know, with a high degree of confidence, what revenue will look like over the next twelve months, before a single new customer is added. Contractual recurring revenue is indisputably the highest-quality revenue, and it is rewarded with more generous valuation multiples and credit terms because investors and creditors value predictability and visibility. This form of revenue helps tilt the odds in the entrepreneur's favor.

This case has been developed for pedagogical purposes. The case is not intended to furnish primary data, serve as an endorsement of the organization in question, or illustrate either effective or ineffective management techniques or strategies.

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Endnotes

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³ Eugene F. Williams, Jr., Lecturer in the Practice of Management.

⁴ The High School Graduate Plateau. *Inside Higher Ed*. December 6, 2016.

<https://www.insidehighered.com/news/2016/12/06/high-school-graduates-drop-number-and-be-increasingly-diverse> accessed January 10, 2019.

⁵ Harvard Business School Case 9-511-029.

⁶ Based on a conversation with Kunal Deodhar, Yale SOM 2020, and a former Amazon employee on March 24, 2020.

Exhibit 1: Sample Contract Terms and Conditions from an Anonymous Search Fund Company

HIGH SPEED INTERNET ACCESS INSTALLATION AND SUPPORT AGREEMENT

This Service Agreement ("Agreement") is entered into between ABC Company. ("ABC Company") and the customer identified below ("Customer"), effective as of the first full day of service provided by ABC Company, for the installation, operation and maintenance of the ABC Company Resident High Speed Internet Access ("HSIA") Network, pursuant to the terms and conditions set forth herein.

1.0 Term and Terminations

1.1 This Agreement will begin as of the first full day of service provided by ABC Company ("Effective Date") and shall continue for a period of five (5) years ("Initial Term"). This Agreement shall be automatically renewed for additional five (5) year periods unless either party gives written notice to the other at sixty (60) days prior to the expiration date ("Renewal Term"). The Initial Term and Renewal Term are sometimes referred to as the "Term".

1.3 This Agreement can only be terminated for cause. If either party shall default in the performance of any of its obligations hereunder and fails to cure such default within thirty (30) days of written notice describing the alleged default, the non-defaulting party shall have the right to terminate this Agreement, upon or after the expiration of the thirty (30) day period, by subsequent written notice of termination.

1.4 Customer shall not assign, transfer or convey this Agreement, including any rights or obligations herein, without the written consent of ABC Company. Any purported assignment, transfer or conveyance in violation of this provision shall be null and void. In the event ABC Company approves an assignment, conveyance or transfer, Customer shall remain jointly liable with assignee unless Customer is released by ABC Company. ABC Company may transfer or assign, either in whole or in part, any rights or obligations hereunder with the prior written permission of Customer. Assignment and / or release shall not be unreasonably withheld by ABC Company.

1.5 Customer understands that it is receiving pricing based on a term agreement. If Customer is required to terminate this agreement for any reason other than default by ABC Company, and only after failure by ABC Company to cure such default within thirty (30) days, the remainder of payments that would have been paid through the totality of this contract will be due within 30 days of termination. Customer authorizes ABC Company to place a lien on assets of Customer to fulfill this obligation if necessary.

2.0 ABC Company Responsibilities --- Installation and Operation of HSIA Network

2.1 Installation. ABC Company, either itself or through subcontractor(s) of ABC Company's sole choosing, agrees to install the ABC Company HSIA network, enclosures, and ancillary equipment at the locations set forth on Exhibit A hereto ("Locations") for the use of Customer's residents and patrons. Exhibit A may provide information on the location, such as: (1) the name of the Customer location and the names and telephone numbers of contacts at each site; (2) the full address of the Customer facility; (3) the precise location within the facility where the HSIA equipment is to be installed; and (4) the telecommunication access line numbers and IP address information which shall be used to provide access to the Internet from the HSIA equipment. Exhibit A may be amended at any time to add or delete locations by written agreement signed by the parties.

1. Customer understands that any additional labor performed beyond the scope of installing and maintaining the HSIA network for the sole purpose of providing Internet access to residents in the resident rooms and public areas, is subject to ABC Company's standard hourly rates as set forth in Exhibit B. Common examples of labor beyond the scope this agreement include, but are not limited to, setting up Customer's back-office or administrative computers to work with the HSIA system, supporting back office networks, and troubleshooting non-ABC Company authorized network equipment. ABC

Company shall, however, provide reasonable assistance training Customer's property personnel on the management portal and relevant network tools made available to Customer.

2. Upon installation, ABC Company shall provide a digital "Move-In" package containing electronic materials to be used to provide pertinent HSIA usage information to residents.

3. Additional details of the ABC Company installation may be listed in Exhibit C.

2.2 Technical Support. ABC Company shall provide reasonable remote technical support for the ABC Company HSIA network. ABC Company shall also provide reasonable on-site technical support for the installed HSIA network at on-site support rates listed in Exhibit B. Based on inflation and increases of Internet usage and related costs to ABC Company, ABC Company reserves the right to increase monthly flat rate technical support fees paid by Customer, capped at 10% per annum.

2.3 Bandwidth. ABC Company shall provide a scalable fiber gigabit port to the property to meet the agreed upon bandwidth requirements of Customer's residents.

2.4 Billing. 50% of the Upgrade Package revenue (above the Base Package offered to Customer's residents) will be payable to ABC Company through direct collection or a credit from Customer. Non-resident usage fees and ABC Company's share of Upgrade Package revenue will be incurred upon usage and billed in the month following service. Base Package and Upgrade Package rates are outlined in Exhibit B.

2.5 Access Software. ABC Company will configure its access software for use at the Customer's location. The ABC Company standard login and welcome page shall be implemented for the Customer's resident rooms and public areas. Future ABC Company customization of the login and welcome pages will be invoiced at billable rates listed in Exhibit B.

2.6 Registered users will be limited to a defined number of registered MAC addresses (not to be less than three (3)), and MAC address changes. These limits will be set by ABC Company as deemed appropriate to regulate the network, avoid network abuse and/or unauthorized use. MAC address registration and changes for each user can be made by contacting ABC Company customer support or through ABC Company online portal.

2.7 ABC Company will proactively monitor and notify residents of any activity ABC Company deems to be outside the scope of acceptable usage of service, including but not limited to file sharing or malicious use of the network and / or bandwidth resources. After an initial warning to the resident, any repeat offenses deemed unacceptable will be made known to Customer and a suspension or termination of service for the offending user may be enacted at ABC Company's discretion.

2.8 Equipment Maintenance. During the term of this agreement, a) ABC Company shall monitor authorized HSIA equipment, install requisite equipment firmware updates in a timely manner, and maintain equipment operability. Any damaged or failed equipment will be the sole responsibility of the Customer to replace as owners of the equipment following its initial installation.

2.9 Advertising. In order to help maintain flat rate support as Internet usage increases, ABC Company retains the right to provide and display advertising and other data and information on or through the HSIA network to the guest users, but not registered users. However, Customer shall have the right to exclude any advertising, data, information or display which is found to be offensive or competitive. Any advertising, data, information or display which Customer has found to be offensive shall be removed by ABC Company from the HSIA network within five business days upon notice by Customer to ABC Company. Customer understands that it is receiving reduced rates by ABC Company in exchange for the opportunity to advertise at the Customer's location(s).

2.10 Unless otherwise specified in section 7 of this agreement, all HSIA equipment, cables, and other equipment, fixtures and supplies furnished by ABC Company shall at all times remain the property of the Customer. Non-ABC Company authorized equipment or information shall not be connected, affixed, or attached to the ABC Company authorized HSIA equipment unless previously authorized in writing by ABC Company. Non-ABC Company equipment connected to ABC

Company authorized equipment will be billed at a rate of \$50 per month per device. All configurations, passwords, back-end software, or other intellectual knowledge, remain the exclusive property of ABC Company.

3.0 Customer Responsibilities

3.1 Customer represents and warrants that it has the authority to enter into this Agreement, is not contractually prohibited from entering into this Agreement and is presently not a party to any exclusive Agreement with another HSIA provider. Customer further represents and warrants that it is authorized to make decisions concerning the placement of the HSIA network and supporting connections, and agrees to permit the operation of such HSIA network equipment at the Locations for use by the public to access the Internet. Customer hereby appoints ABC Company as its exclusive provider of HSIA services at all Locations listed in Exhibit A, except for those Locations where ABC Company elects to remove its HSIA equipment.

3.2 Customer shall, at its expense:

1. remit to ABC Company the service and installation fees agreed upon and outlined in Exhibit B below and shall be responsible for all costs of service suspension fees and collection of overdue invoices, including but not limited to reasonable attorney's fees;
2. allow access to the telecommunications access line that will be used to connect the HSIA network to the Internet at the location ABC Company specifies;
3. remit payment for ABC Company's efforts to move the aforementioned telecommunications line to the location ABC Company specifies if it is not in the correct location at the time of the arrival of ABC Company's installation personnel;
4. provide adequate space (minimum space is 4 ft. x 4 ft. and the maximum space is 8 ft. x 10ft.) at each designated ABC Company network site;
5. provide a grounded dedicated 110 electrical outlet for each Item of HSIA network if necessary;
6. be responsible for providing and maintaining the electrical service and for payment of recurring utility service bills for the HSIA network;
7. keep the HSIA sites clean and free from debris and obstructions;
8. take all precautions to protect network equipment from damage, vandalism, theft or hazardous conditions and promptly report any damage, vandalism, theft, service failure or hazardous condition to ABC Company;
9. keep the HSIA sites environmentally controlled according to ABC Company specifications;
10. provide ABC Company, its customers or representatives with access to the HSIA network equipment;
11. provide reasonable technical assistance to InnFiux and users when possible;
12. ensure that all pre-installation information is correct and site is prepared for ABC Company installation upon arrival of ABC Company installer, and reimburse ABC Company \$250 per installer per day on-site plus travel expenses if delays are caused due to inaccurate pre-installation information, an unprepared site, or any other delays caused by the Customer;
13. permit ABC Company to survey customers online and observe Customer activity with respect to HSIA service;
14. be responsible for all shipping costs associated with the ABC Company network;
15. be responsible for all costs related to power failures, surges, or other natural events;
16. be responsible for costs associated with maintaining property brand service requirements, including login pages;

17. authorize ABC Company to core drill through floors and penetrate firewalls when necessary, with Customer's prior approval;
18. make available at least one 20' x 20' or larger secured room or space for installers to store equipment and base operations;
19. repair demolition required by ABC Company to install HSIA network, with Customer's prior approval;
20. make available at least one property personnel to undergo a basic web based training on the ABC Company systems prior to the resident move-in date;
21. provide reasonable aid to new registered users in setting up devices to access the ABC Company network and help users manage their accounts throughout their residency;
22. install all low-voltage wiring (CAT6, fiber, and all connection points) and maintain the wiring infrastructure related to the HSIA system.

3.3 Equipment. Customer is responsible for costs associated with equipment that has been damaged, stolen, or misplaced by the Customer, any employee or affiliate of the Customer, or any of the Customer's residents. Replacement costs are comprised of the cost of the hardware, shipping and handling costs, and labor costs of configuration.

3.4 Customer Equipment. Customer understands that ABC Company is providing a flat rate for technical support for the Customer's network and in doing so, is dependent on the Customer's existing HSIA network equipment to be completely functional. Customer agrees to maintain the quality, number, and functionality of its HSIA network equipment and wiring. ABC Company will notify Customer if it determines HSIA network has become non-functional and will assist Customer, at billable rates listed in Exhibit B, in efforts toward resolution. Customer must resolve any issues rendering HSIA network non-functional within 48 hours. If Customer does not resolve any issues rendering HSIA network non-functional within 48 hours of notice from ABC Company, and until such issues are resolved, ABC Company may opt to resolve the issue without Customer intervention and any and all technical support will be considered outside of contract, billable at rates listed in Exhibit B.

4.0 Limitation of Liability; Warranties

4.1 ABC Company's liability to Customer shall be limited to its obligations to pay commissions on any revenues collected from end users. ABC Company shall not be liable for interruption of service for any cause or for any indirect, special, incidental, consequential or punitive loss or damage of any kind, including lost revenues or profits (whether or not ABC Company had been advised of the possibility of such loss or damage), by reason of any act or omission outside of its performance of responsibilities under this Agreement.

4.2 In no event shall ABC Company or Customer be responsible for any failure or delay in performing this Agreement if such failure or delay arises from causes beyond its reasonable control.

4.3 THERE ARE NO AGREEMENTS, WARRANTIES, OR REPRESENTATIONS, EXPRESS OR IMPLIED EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE OR USE, EXCEPT THOSE EXPRESSLY SET FORTH HEREIN.

5.0 General Provisions

5.1 Proprietary Information. Any technical or business information or data disclosed or furnished to Customer by ABC Company ("Information"), including all Information relating to access to the Internet from the HSIA service, shall remain the property of ABC Company and when in tangible form shall be returned upon request. All Information shall be kept confidential by Customer, shall be used only in Customer's performance hereunder, unless such information was previously known to Customer free of any obligation of confidentiality or is made public by ABC Company.

5.2 Independent Contractor. It is expressly understood and acknowledged that the parties are entering into this Agreement as independent contractors and that this Agreement is not intended to create, nor shall it be construed as creating, any type of partnership, joint venture, or franchise relationship between ABC Company and Customer.