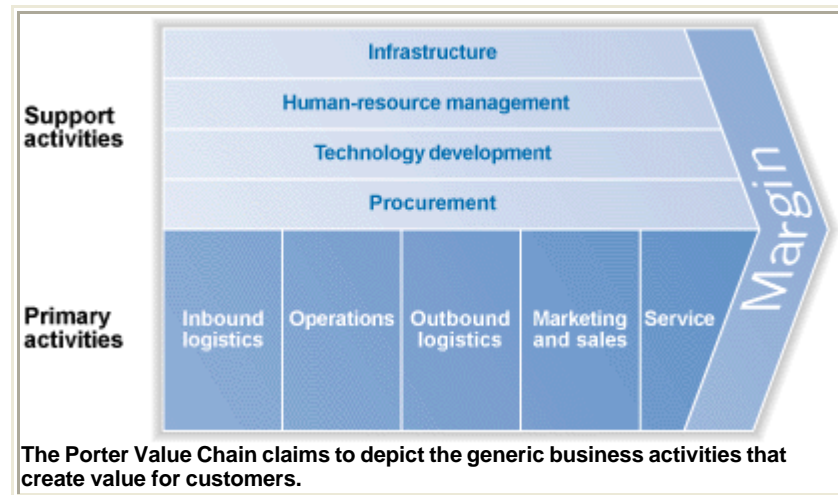


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## Fjeldstad and Stabell define three business models for producing and delivering value to customers

Michael Porter's value-chain model purports to identify the set of key generic activities that all businesses perform to generate value for customers. Introduced in 1985, this model has dominated the thinking of many IS and business executives.



Porter's main contribution is his analysis of how a company gains competitive advantage – by becoming the lowest-cost competitor or by differentiating its products or services. According to Porter, "Competitive advantage cannot be understood by looking at a firm as a whole. Advantage stems from the many discrete activities a firm performs – designing, producing, marketing, delivering and supporting products. Each of these activities can contribute to a firm's relative cost position and create a basis for differentiation."\*

Countless managers have applied the Porter Value Chain to their businesses to analyse how they create value and to formulate new competitive strategies. Many an IS department has also used the chain to guide its priorities and plans. Yet a significant number of businesses, including banks, hospitals, insurance companies and telecommunications companies, have found it difficult to apply the value-chain model with any rigour to their industry sectors. Recently, Øystein Fjeldstad and Charles Stabell of the Norwegian School of Management have conducted research (excerpts of which are quoted throughout this report) into the limitations of the value-chain model to service industries \*\*. In their view, the value chain does not sufficiently capture the value-creation logic of these industries.

Drawing on seminal work in organisational theory done by James D Thompson in the 1960s, Fjeldstad and Stabell suggest that more than one model is needed to understand the workings of the different types of business. They have identified three generic 'value configurations' or models of business: chains, shops and networks. The two new models provide a better fit with the business activities of several key service industries. For IS and business executives, this can have breakthrough significance: since each model employs a different set of core activities to create and deliver a distinct form of value to customers, identifying the most appropriate model has important implications for how a business should be structured and managed.

**Value chains** transform inputs into products; products have value at each intermediate stage of the process. The chain model applies best to companies in manufacturing and distribution industries.

**Value shops** (as in workshops, not retail stores) mobilise resources (people, knowledge or money, for example) to solve specific problems such as curing an illness or delivering a solution to a business problem. The 'problem' could also be how to exploit an opportunity, like producing a Broadway show or putting together a real-estate development deal. The shop process is iterative, involving repeatedly performing a generic set of activities until a solution is reached. The shop model applies to most 'body shop' organisations such as building contractors, consultancies and legal firms, and to organisations whose primary purpose is to identify and exploit specific market opportunities, such as developing a new drug, searching for oil, or designing a new military aircraft.

**Value networks** – as defined by Fjeldstad and Stabell – are single companies that configure themselves to mediate interactions and exchanges across a network of their customers. (Note that this is not the same as the recent popular usage of the term 'value network' to denote a group of companies, each specialising in one piece of the value chain, and linked together in a virtual way to create and deliver products and services.) The value-network model applies obviously to telecommunications companies, but also to insurance companies and banks: their business, essentially, is to mediate between customers who have different financial needs at different times.

Customers of value networks (in contrast to those of chains and shops) often care who the other customers of the network are because much of the value they receive is derived from explicit or implicit exchanges with these other customers. Furthermore, the nature of a value network is such that customers often receive more value as more customers are added to the network. Another feature of value networks is that they often co-produce value with their competitors – for instance, when airlines link their booking systems to enable travellers to make a single booking that spans multiple carriers, or when a telecommunications company offers interconnections to the networks of other, competing, telecommunications companies.

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- See "*Competitive Advantage: Creating and Sustaining Superior Performance*", M Porter, The Free Press (1985).

\*\* See "*Configuring Value For Competitive Advantage: On Chains, Shops, and Networks*", C B Stabell and O D Fjeldstad, *Strategic Management Journal*, Vol 19, 413-437 (1998).

## Value chains create value by transforming inputs into products

Fjeldstad and Stabell cast new light on the Porter value-chain model by showing that it is most relevant to companies that make products. In value-chain companies, the product is the medium for transferring value between the organisation and its customers. Thus value-chain companies are product-centric, and they focus on the key activities associated with making, moving and marketing products:

- **Inbound logistics** – receiving, storing and disseminating inputs to the product.
- **Operations** – transforming inputs into final product form.
- **Outbound logistics** – collecting, storing and physically distributing products to buyers.
- **Marketing and sales** – providing a means with which buyers can purchase the product, and inducing them to do so.
- **Service** – providing service to enhance or maintain the value of the product.

Value chains are primarily concerned with the overall efficiency and cost of performing the key activities of the chain, because this is how they create value. Even customer-facing activities such as marketing, sales and service are driven by these concerns. In Fjeldstad and Stabell's view, "Marketing serves two complementary purposes. The first is the development and refinement of the chain by providing product specifications and volume estimates. The second is to stimulate the required level of demand for the chain's output to ensure stable operation and capacity utilisation. Post-purchase service is performed to ensure the proper use of the product by the customer, to remedy defects or to increase the lifespan of the product."

In value chains, the management agenda (opposite) is concerned with issues such as the output of the process (the products), the efficiency of the process, the ability to respond to changes in supply and demand, control of upstream and downstream activities (typically performed by external organisations) and the interface to the customer.)

### The management agenda for value chains

*How can we refine the product to better fit the customers' needs?*



A key challenge for chains is understanding customer needs better, in order to make a product that meets those needs. Thus a vehicle manufacturer such as Ford is concerned with what features or improvements it needs to offer in its vehicles to make them more attractive to buyers.

*How can we find the customers to whom our product will appeal?*

A key challenge for chains is understanding customer needs better, in order to make a product that meets those needs. Thus a vehicle manufacturer such as Ford is concerned with what features or improvements it needs to offer in its vehicles to make them more attractive to buyers.

*How can we reconfigure the flow of work to be more efficient?*

Chains continuously explore ways to make the flow of work explicit – to identify and minimise cost, waste, and unnecessary activities, and to find ways to speed up cycle time.

*Are we performing each step in the chain as efficiently as the marketplace?*

This question embodies the classic management question of ‘make versus buy’. Is it better to do non-core work in-house, or to buy the necessary products or services in the marketplace?

*Do we need to own all the parts of the chain?*

Which is better: to outsource or to ‘insource’? Can activities in the chain be performed more efficiently by third-party suppliers or in-house? What are the implications of each approach for coordinating activities throughout the chain?

*How can we make the chain as a whole more responsive to perturbations in supply or demand?*

These days it is perhaps even more important to build in the agility to respond to the dynamics of supply and demand than to optimise the chain process. Both are needed: the ability to predict and respond to changes upstream and downstream, while maintaining efficiency.

*How can we make the chain as a whole more responsive to perturbations in supply or demand?*

How can a company best manage upstream activities (suppliers of inputs) and downstream activities (logistics and distribution)? What is the best way to effect control – outright ownership, partnership or alliance, or a market-based relationship?

*How can we efficiently and effectively connect our chain to the customer?*

How do we best control our channels to the market? A PC manufacturer, for example, could sell direct or through distributors. How can you best manage the conflicts that arise when you sell through multiple direct and indirect channels to the market? Another key concern is whether and how to pursue new channels to the market, such as electronic interfaces to the customer.

*How can we link our chain to new customer interfaces, or vice versa?*

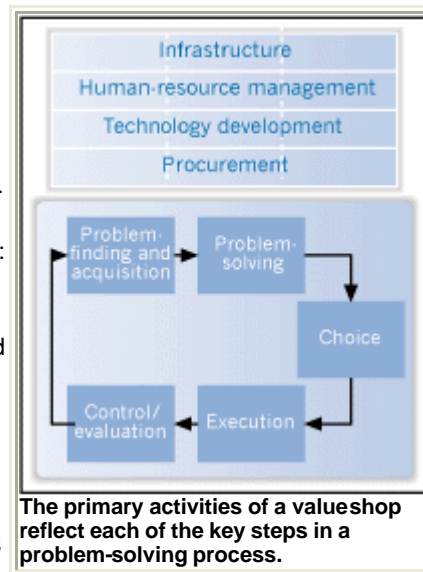
Can we sell through new channels of distribution within our industry or outside? For example, Ford is now grappling with the challenge of exploiting the Internet as a new interface to its customers and the implications for its existing interfaces, such as traditional car dealerships.

**Value shops create value by mobilising resources to create individual solutions to customer problems, or to exploit market opportunities**

Fjeldstad and Stabell argue that chains create and market products, but shops solve problems and exploit opportunities. "While chains perform a fixed set of activities that enable it to produce a standard product in large numbers, shops schedule activities and apply resources in a fashion that is dimensioned and appropriate to the needs of the client's problem". Good examples of this 'shop' model include professional services organisations in healthcare, law, architecture, IT and construction.

Fjeldstad and Stabell assert that value-shop organisations:

- Perform cyclical, iterative and interruptible activities – for example, a doctor moves back and forth between hypotheses and new data collection in order to develop, confirm, reject or reformulate a diagnosis.
- Exhibit significant sequential and reciprocal interdependence between activities – the primary activities of a shop demand a high degree of coordination across different activities, disciplines and sources of expertise.
- Apply multiple disciplines and specialities in spiralling activity cycles – different skills and expertise are often required at different stages of the problem-solving process.
- Configure responses to deal with unique cases – the value-creation process is organised to deal with unique situations (although standardised solutions are frequently used).
- Engage in standard information-acquisition activities – value-shop professionals generally devise standard information-gathering procedures to ensure that the problem or opportunity is correctly framed.
- Leverage expertise – shops are labour-intensive, often demanding a scale of operation that broadly leverages specialised expertise and knowledge across multiple problems or opportunities.
- Rely on referrals based on reputation and relationship – shops often need expertise from other organisations or disciplines, for example, when a general practitioner sends a patient to a specialist, or an IT vendor subcontracts to an expert.



With these characteristics, the management agenda in a value shop (opposite) focuses on areas like problem and opportunity assessment, resource mobilisation, project management, solutions delivery, outcome measurement, and learning.

## The management agenda for value shops

*What is the problem or opportunity? What is the potential value or consequence of this problem or opportunity? How can we solve or exploit it?*

Shops evaluate or diagnose each opportunity to first understand whether to pursue it. Healthcare or legal organisations will make this decision explicitly based on their ability to solve the problem. Commercially-oriented organisations such as management consultancies will also evaluate the commercial value or profitability.

*What can we acquire or learn in the process that can be used elsewhere?*

This kind of assessment can be particularly challenging when dealing with an entire portfolio of client problems or market opportunities. Shops must therefore be clear about their core competencies and value proposition – what they are good at that creates value for customers – in order to decide how to exploit opportunities or attract and deploy finite resources to implement solutions.

*What resources do we need, and how can we mobilise them?*

Shops also need to be good at identifying and mobilising the right resources to implement solutions or exploit market opportunities. This can be daunting, particularly in situations involving a broad portfolio or set of opportunities – such as multiple client engagements for

a consultancy, a clutch of product-development projects for an R&D organisation, or a group of costly energy-development opportunities for an exploration company.

***What knowledge do we have of this type of opportunity and how can we better leverage that knowledge?***

Knowledge management is critical to the success of value shops. A key challenge is to make explicit the knowledge the shop develops about problems and solutions, to avoid 'reinventing the wheel'. Often, the secret of successful knowledge management is creating the right organisational environment to enable people with the right skills and expertise to work together effectively.

***How can we achieve rigorous project management in a dynamic environment?***

For value shops, project management is a critical success factor and core competence. It is essential to pick the right opportunities and problems to address, to mobilise and deploy the right people and resources, and to manage projects to achieve the desired results, often for external clients. Project managers are highly valued by shops, and because they are usually scarce, recruiting and developing good project managers becomes an essential task.

***How do we integrate external resources in a way that is invisible to the customer?***

Shops must be able to mobilise the right resources and people, often from outside the organisation. A shop must incorporate external resources in ways that are seamless to the customer. This is a critical capability around which shops can either succeed or fail – for example, when acting as general contractor, systems integrator or lead legal adviser.

***What is the outcome for the customer?***

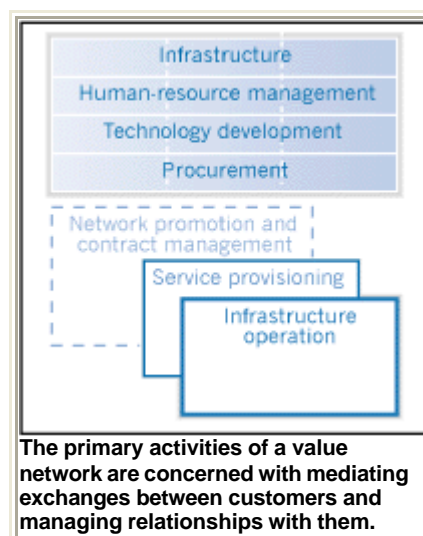
The best-value shops focus rigorously on creating the right outcomes for customers. They relentlessly ask: Have we solved the problem? What has been the result? Outcomes are a shop's key metric of performance, so measuring and tracking outcomes is crucial for long-term success.

## **Value networks create value by mediating exchanges between their customers**

Fjeldstad and Stabell define value networks as organisations that create value for customers by linking them together or mediating exchanges between them. This can be direct, as in a telephone service, or indirect, as in retail banking where a group of customers (borrowers and lenders) are linked together through a common pool of funds. In each case, it is the customers who are the network. The value-network organisation provides a networking service, typically through some form of infrastructure.

Fjeldstad and Stabell note that value-network companies:

- Operate like clubs – the mediating organisation establishes, monitors and terminates direct or indirect relationships among members. It admits members who complement each other, and in some cases excludes those that do not.
- Facilitate matching and monitoring through standardisation – value networks use standardisation (of infrastructure or customer records, for example) to help them mediate interactions between customers.
- Increase value to customers by enlarging the network – the more customers a value network has or is able to connect, the more value it represents to each individual





customer. Thus many new value networks adopt a 'giveaway' strategy to build a critical mass of customers.

- Perform mediation activities simultaneously at multiple levels – to mediate exchanges between a large number of customers efficiently, value networks need a simultaneous and layered set of activities. For example, a bank mediating electronic payment between a buyer and a store must simultaneously link multiple payment systems (other banks and credit card companies) and communications networks. The resulting set of activities is performed by multiple, layered networks that co-produce value for the customer.

Value networks must excel at matching customers and multiplying connections between them. The management agenda for value networks (opposite) focuses on such imperatives as utilising the network infrastructure fully, maintaining the exclusivity of the network, devising innovative service provisioning and pricing, assessing long-term value of customers, and identifying clusters and connections between customers and network layers.

## The management agenda for value networks

### *Who do we need to bring into the network (and remove from) to enhance its value?*

- Value networks must understand how its customers add value to each other, and identify which customers to bring in to the network, and which to exclude.

### *Who are the good users of the network, and how can we encourage them to use the network more?*

Optimising utilisation of the network infrastructure is a key economic imperative, achieved by both building scale and encouraging the right type of usage. (Airlines could fill every flight by discounting every seat, but they would not make money.) Value networks must encourage good use of the network.

### *To whom can we sell excess capacity on our network infrastructure without alienating other customers?*

- Value networks seek to sell excess capacity (off-peak power, unused telecommunications network capacity, flights at inconvenient times) in ways that attract new customers without undermining existing relationships.

### *How do we maintain our value as a network of customers as we become increasingly connected to other networks?*

The more connections they offer, the more valuable networks are to their customers – but customers also value exclusivity. How do networks resolve this paradox? Frequent-flyer programmes are a good example of an attempt to maintain uniqueness in the face of pressure to become more open and link with competing airlines.

### *How can we strike the right balance between pay-per-transaction and subscription?*

- Network infrastructure and customer acquisition both carry high fixed costs, so networks seek ways to build and sustain long-term revenue streams and customer bases. Thus they favour subscription pricing rather than pay-per-transaction. Subscriptions can be direct (an annual subscription to use a cellular network or join a club) or indirect (minimum monthly bank balances or fees).

### *How can we identify new opportunities for value-added exchanges between our customers?*

A crucial opportunity for networks to increase revenue is to move beyond generic exchanges between customers and identify unique opportunities to bring them together or to increase the value of their exchanges. To gain this vital knowledge, networks must monitor and understand customer behaviour.

### *Who else is each customer connected to and how can we exploit that?*

- The more network companies know about the relationships between customers and their network usage patterns, the more easily they can find opportunities to add new value. A

successful example is the Friends and Family Program introduced by MCI (a long-distance telecommunications carrier). This offers special discounts to customers calling the numbers they dial most often.

*What services can ride on our network and on what networks can we put our services?*

The more services you add to your network, the more value it has for customers. It also may be advantageous to connect to new customers through other value networks. Credit-card companies, for example, now offer special card 'affinity' programmes for groups and clubs of various kinds.

## A business may appear to contain multiple models, but there must be one overarching model

Different parts of a business may exhibit the characteristics of different configurations: production and distribution resembles a value chain, research and development a value shop, sales and marketing a value network. Yet if the business is to function as an integrated unit, we contend that there must be a single overarching model that defines the way the organisation creates value. (An exception is 'Portfolio' businesses that may create value according to different models - although there is growing pressure on such businesses to disaggregate to maximise shareholder value.)

In many cases, the overarching model is a strategic choice. It need not be dictated by the industry. Nor should it be determined by the relative size of different parts of the business, but by the overall strategy of the organisation. Most oil and gas companies, for example, comprise upstream exploration (shop) and downstream production (chain), and may emphasise one or the other as their primary model. Their main strategy may either be to compete on the ability to find and develop new energy reserves, or on the cost of production and operations. Pharmaceutical companies can view their business as manufacturing and distribution of drugs (chain), finding cures for disease (shop), or managing networks of people with particular illnesses and diseases like cancer and diabetes (network). An electrical utility that combines generation (chain-like) with distribution (network-like) may adopt either the chain or network as its overarching model - that choice will determine not only its overall strategy but also the operation of each of the business functions.

In other cases, the choice of overarching model may surprise. For example, Bass Taverns in the United Kingdom saw itself in the 1980s as a brewer and distributor of beer (chain). It owned outlets (pubs) to promote its own brands. However, the Monopolies and Mergers Commission saw this as an anti-competitive practice and restricted brewers' ownership of pubs. Bass was required to cut from 7,500 to 5,000 outlets: its challenge was deciding which ones to drop. This forced the company to consider what business it was really in, which revealed that buying and selling outlets had a bigger financial impact than making and selling beer. This revelation transformed the company's strategy, management objectives and reporting. Bass began assembling a diverse portfolio of hospitality properties (only a small proportion are pubs) and today is the largest owner of such properties in the world.



Lack of an overarching model may indicate a case for breaking the business up. For example, after years of trying unsuccessfully to create synergies between its disparate businesses, AT&T Corporation recently split into three independent companies, each characterised by a different value configuration. Lucent Technologies emerged as a manufacturer of a broad range of telecommunications and networking equipment (chain), NCR was created (or recreated from the 1991 acquisition) as a provider of IT solutions (shop), and the remaining telecommunications and networking services businesses remained under the corporate AT&T name (network).

Similarly, in 1993, Marriott Corporation split its operations into two separate, publicly-held companies - Host Marriott Corporation, a developer and owner of lodging and retirement-community real estate, and Marriott International, Inc, a manager of lodging and contract-service businesses. Before the separation, the stock market placed little value on the synergy from managing hotels and building and owning them, mainly because of the high capital requirements and risk exposure of the latter business. The two independent businesses have a much higher market valuation than the old single company.

Trying to force the wrong overarching model can be disastrous. When Sony acquired Columbia TriStar Studios, it applied chain-like thinking to the deal. Sony, a hardware-products manufacturer, hoped to exploit synergies with Columbia TriStar, which it viewed as a "software products" producer (movies, TV shows). Sony attempted to impose a chain-like way of operating on Columbia TriStar, not realising that Hollywood studios operate predominantly as value shops. Each film or TV series is viewed

as a standalone opportunity or project requiring different mixes of human, technical and financial resources to produce a unique result. After a period of great internal turmoil, Sony was forced to write off a huge part of its investment and scale back its expectations for synergies between these different businesses.





## **Adopting disciplines of a secondary model can add more value to your customers**

Competitive success often depends on doing more than managing your primary model well. It may also require delivering additional kinds of complementary value. Adopting some attributes of a second model can be a powerful way to differentiate your value proposition or defend it against competitors pursuing alternative value models. It is essential, however, to pursue another model only in ways that leverage the primary model. What are the possibilities?

### ***Chains adopting attributes of shops***

Chains can adopt attributes of shops by developing capabilities to help customers to use or apply its products. A good example of this approach is Home Depot, a US-based retailer of tools, building supplies, hardware, garden and home-maintenance equipment, and so on. Its primary value model is a chain, but Home Depot has added some attributes of a shop. It employs experienced tradesmen in departments such as plumbing and electrical equipment, and encourages them not just to sell the products but to advise customers about using them. Home Depot also runs training seminars and produces books, videos and so on.

Another illustration of applying shop-like capabilities to a chain is provided by Allegiance Corporation, which manufactures and distributes a wide range of medical supplies to hospitals and other healthcare organisations. In addition to supplying products, it also offers to help its customers manage their materials inventories in ways that reduce their total operating cost. Allegiance assigns experts with extensive clinical experience to work with hospital staff to standardise supplies and cut consumption.

### ***Shops adopting attributes of chains***



Shops can adopt attributes of chains by executing shop-like activities (such as problem diagnosis) in a standardised and efficient (chain-like) way. For example, several 'health-maintenance' organisations in the United States like Columbia/HCA and Kaiser Permanente have tried to apply the cost management and standardisation of processes to shop-like activities such as diagnosis, treatment regimes, and ongoing evaluation and control of patients' illnesses. Their goal is to provide high-quality care but at a lower cost.

### ***Chains adopting attributes of networks***

Chains adopt attributes of networks by encouraging the formation of subgroups of customers and mediating exchanges between them. For example, Harley-Davidson has formed the Harley Owners Group (HOG) – a network of customers that adds value to Harley's primary chain model (producing and selling motorcycles and related products). The group reinforces Harley's brand identity, builds loyalty, and provides valuable information and feedback about its customers' behaviours and preferences.

Amazon.com is a value chain like other book retailers and initially used technology to make the process vastly more efficient. Now, by offering book recommendations submitted by customers and affiliate interest groups, it is adding the characteristics of a value network. Through Amazon's Associates programme, customers can even set up their own websites in order to sell books to each other.

### ***Networks adopting attributes of shops***

Companies that are value networks can add the problem-solving attributes of value shops. An example is Charles Schwab, a successful 'discount' investment broker. It focuses primarily on the 'do-it-yourself' investor, providing infrastructure to pool and link investors with investment managers and financial products provided by other organisations. Recently, it added a new product – Schwab AdvisorSource – a no-cost, no-obligation service designed to provide high-net-worth investors with a local, professional investment manager and customised financial-planning services.

### ***Applying a chain-like approach to networks***

Recently, we have begun to see new entrants into industries characterised by value networks applying chain-like, one-stop-shop business models. One example is Quicken.com, an all-in-one personal finance site that offers banking services, mortgages, investments and insurance, as well as information and analytical tools to



help customers decide which of these products and services to buy.

Another example of a new chain-like interface to network-like businesses is EnergyOne LLC. Owned by UtiliCorp United, Inc and PECO Energy Company, but operating as a separate enterprise, EnergyOne is an ambitious effort to change fundamentally the way electric and natural-gas utilities relate to their customers. It does this by integrating traditional energy offerings with a portfolio of competitively-priced products and services (such as AT&T residential communication services and ADT's home and business electronic security services) under the EnergyOne label.