

# The Role of Informality in Socioeconomic Wealth Creation

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## Abstract

The informal economy is becoming a formidable socioeconomic force, neither taxed or under government control. Initially associated with the economies of developing countries, the informal economy operates outside of established formal methods of wealth creation. Developed nations are now contending with the informal economy, where it appears to contribute to the destabilization and evolution of formal systems of governance. The dynamic between formal and informal economies is challenging international law due to increased competition outside of well-defined rules, regulations and guidelines for doing international business. The authors acknowledge entrepreneurship and innovation are key drivers of the informal economy. They contend that, since formal economies have also become heavily reliant on technological innovation, the resulting rapid, sometimes radical, systemic changes are the result of informal economic forces. Competition between industrialized nations is moving domestic and international business towards an age of informality.

**Keywords:** Informal, Formal, Economy, Entrepreneurship, Innovation

## Introduction

The origins of all human conduct are informal. Behaviour only becomes codified and formalised over time. As a consequence of successful practice it is repeated and after repetition it becomes habitual and formalised. Anything new, creative or innovative is informal by definition in its earliest stages, but there are those who have suggested moving towards a comprehensive theory of the informal economy (Godfrey, 2011).

To the extent that formal systems are experienced as unsatisfactory, informal activities will qualify them and render them more palatable. Some formalities become obsolete and informalities may cut them back. For example, when unionised employees “work-to-rule”, they re-institute all the formalities they have learned, some unnecessarily, and this greatly slows production. The employees cannot be sanctioned since they are actually obeying instructions and management may not know what rules have become obsolete. Formalities tend to be overruled by the exercise of personal judgement. Because there is economic volatility (Mapp & Moore, 2015) and the current state of the informal economy is different than it was even a few years ago (Joshi, Prichard, & Heady, 2014), we endeavor to look at informality and formality as a series of historic and current dilemmas that can present a middle-ground for reconsiliaiton.

We will examine several different approaches to the clash of formality with informality and we see with what frequency the latter comes to the rescue of the former. Some form of the labour/management work-to-rule scenario is likely to be re-enacted when formal and informal economies converge as they do in many of the 20 examples that follow. These examples have conclusions and implications embedded in them and present an overall picture for revealing why seemingly opposing systems can create both social and economic value.

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It may be argued that the informal economy that has risen out of the formal economy is a response to both social and economic forces. It may even be argued that economies are cyclical, with the informal evolving into the more formalized over time.

### **1. The Informal system as a critique of the Formal system in the factory**

As early as the 1930's Elton Mayo and his researchers Roethlisberger and Dixon had drawn attention to the clash of the Formal with the Informal system within the factory (Roethlisberger, Dickson, & Western electric company, 1934). Framing a contemporary research agenda has become far more complex (Webb, Bruton, Tihanyi, & Ireland, 2013). While the formal system individualised each employee, offering him/her piecework incentives, and in an attempt to raise productivity, instituted standards that employees must exceed to keep their jobs safe, the workers devised an informal system whose function was to subvert these aims and substitute preferred norms. This took the form of work restriction norms aimed at "rate-busters", those who exceeded standards and might lead future standards to be raised.

It is easy to wax indignant about such deliberate sabotage of productivity, but to the credit of the Harvard researchers, they regarded the informal system as a *critique of the formal system*. While the formal system was manual, the informal was verbal. The former was

competitive, the latter cooperative. The formal system was individualised and motivated by fear. The informal system sought solidarity and security through socialisation. In most factories today, piecework has been long abandoned and time and motion studies are described as the problem for which the Human Relations School of Management was the solution. Extensive worker participation and problem solving is today's best practice, together with quality circles and "volunteer management", with workers thinking and improving on the job in one continuous process of learning.

## **2. Trades unionism as a response to formal industrial management**

Great Britain and the United States were the first to industrialise, but as other nations fast followed with lower wage rates, determined efforts were made to hold wages down and even to reduce them (Blackford, 1988). The result was a far higher level of industrial strife between the two leading economies than among those chasing them. Use was made of Pinkerton detectives and industrial spies so that workers spoke in a "Ford whisper" to avoid being denounced to managers (Meyer, 1981). Industrial relations became politicised with the Democratic Party and the Labour Party allied with the union movement in the USA and Britain respectively, and the Communist party tracing its origins to the revolt of the industrial proletariat who would seize control of the machines they operated.

Today unions have been substantially defeated through adversary processes, but the result has been the loss of manufacturing to nations who never picked this quarrel in the first place. Part of the problem lay in the way industrial disputes were formalized. The National Labour Relations Act gave unions the right to bargain over pay and conditions of work, in this way enshrining the zero-sum conflict between management and labour. Today manufacturing constitutes only 11-12% of the US and British economies and a major source of faster economic growth may have been lost while unemployment has risen so that costly benefits must be paid. In contrast, it is said China's manufacturing has rescued some six hundred million from poverty. However, it is impossible to calculate the real numbers (Vershina & Rodionova, 2011).

What unions stood for, higher degrees of participation in the work place, workers' rights and the social engagement with their fellows, have largely been adopted by our major competitors and harnessed to productivity. When Japanese managers rehired workers fired by General Motors and ran the joint venture called NUMMI the plant went from the worst in GM's system to being the best with most of the same workers! The US and the UK have repeatedly failed to offer workers the psychological satisfactions their unions gave them. In Germany, unions are a major source of scholarship on what benign industrial relations can accomplish.

## **3. Immigrant communities and the informalities of networked relationships**

One of the abiding puzzles of wealth creation is the extraordinary, but rarely explained, contribution of the networked families of recent immigrants. The Chinese Diaspora would, if combined, constitute the fourth largest economy in the world, ahead of Germany and Brazil. In the Philippines a Chinese population of around 3% contributes about 70% of the nation's wealth and this is the rule rather than the exception in much of the Pacific Rim (Chen, 2001). When Indian immigrants were expelled from Uganda the economy came close to collapse and the UK benefitted immeasurably from giving them refuge. As recently as 2000 one third of Silicon Valley's entrepreneurs were found to be Chinese and Indian immigrants entering the USA since 1971. They had contributed \$15 billion to the US economy (Saxenian, 1999).

It is not simply immigrant groups but minority sects and groups within the nation. The English Quakers contributed to the industrial revolution *forty times more* than their numbers warranted (Hurst, 1995). Over half of Britain's great entrepreneurs were of Non-Conformist persuasion in a nation where only 6% were thus affiliated (Hagen & Massachusetts Institute of Technology Center for International Studies, 1962). French Huguenots, although just 10% of the population, were at one time forbidden to immigrate, so substantial was their impact on the economy.

What is it that strangers-in-a-strange-land possesses, that is so precious? Why this outsized contribution by foreigners, dissenters, and informal rebels against the nations' formal rules? One reason is that in order to survive they need products in addition to their personalities. The latter will not suffice among strangers. Another reason is their tightly networked communities. There are about twenty to forty fellow ethnics or co-religionists on whom their economic survival depends. Were they to cheat any of these or even get into a dispute, it would be all around the community by nightfall. It is for such reasons that debts incurred by a Chinese father will be paid off by his children. The honour of the family is at stake. Such networks may have their own credit unions and highly respected elders to resolve disputes, thereby saving on lawyers and bankers.

In some cases, group norms seem to have made large differences. Quakers refused to doff their hats to dignitaries, tithed themselves to train apprentices, had women run their meetings and declared, "My word is my bond". This allowed them to found many financial institutions where the speed of transactions exceeded the speed of notations. Barclays and Lloyds were both Quakers. The discrimination such groups suffered served to tighten their bonds and increase the fairness of their dealings with each other.

#### **4. The family as the origins of new business and its guiding metaphor**

The vast majority of new businesses originate with families and are the means by which families survive. Companies started by individuals with the help of venture capitalists are a small, if important, minority. Even when a company is publicly owned its family origins may loom large and its norms may be those of a family. Companies like Du Pont and Johnson and Johnson retain family type cultures. In Asia especially, the family spirit is a major source of informality. In Chinese and Japanese companies, the metaphor of the family is everywhere with "elder" and "younger brothers", "fathers", "uncles" and "aunts" etc. The nickname for MITI in Japan is "worried auntie".

One advantage of informal family networks is that they greatly reduce the role of the Welfare State and the culture of entitlement in much of Asia. Communities arrange for members, who would otherwise be destitute, by supplying them with some useful service and coaching them into doing this well so as not a disgrace to their family. The isolated dependent person is rare. Cross-shareholding in your neighbour's business is common, so there are many with a stake in your survival that will help if needed.

The idea that business is an exercise in impersonal and calculated rationality, made famous by Max Weber, turns out to be a largely Western conviction (Weber & Parsons, 1930). The contrast between *gemeinschaft*, the primary group of intimate, informal, family cooperation, and *gesellschaft*, the secondary group with detached, strategic, formal, competitiveness is a stereotype largely confined to Europe and North America. Entrepreneurship has been linked to both formal and informal economies (Bureau & Fendt, 2011). While much of the West regards entrepreneurship as being motivated by the desire for gain and personal fulfilment, the GEM

studies, coming out of Babson College and the London Business School, reveal that for much of the world, it is a matter of family survival.

### **5. The informalities of lending relationships**

Such popular movies as “It’s a Wonderful Life” reveal that lending relationships in an intimate community were once the bedrock of retail banking. The lender needs to know and to care about the borrower and whether s/he is able to repay the loan plus interest. Personal knowledge as to the good character of the borrower is a vital ingredient without which an entire economy can collapse as happened in the recent subprime mortgage disaster where lending relationships were predatory and deceitful. As Gillian Tett (2009) reminds us, the word credit comes from *credire*, to believe, and without genuine belief the system cannot. The fact that formal relationships are rooted in informal knowledge and in mutual understandings has rarely been better illustrated.

In large parts of the developing world, banks cannot afford to deploy loan officers. There is not the volume of business to pay their salaries, the lending is too little and the information too sparse. What has happened instead is that local members of the community organise networks of borrowers and recommend these to the bank as a group of persons, prepared to underwrite each other’s debts, and to guarantee the integrity of their membership (see Prahalad, 2005).

Similar informal groups of guarantors were organized by Mohammad Yunus of the Grameen Bank in Bangladesh, and became the basis of micro-finance (Yunus & Jolis, 2001). Yunus went to considerable lengths to persuade poor Muslim women to take out micro-loans, in a country where even approaching women is taboo. However, the informal support group of local women plays an active role. If the first woman to borrow repays on time, then others in the group will become candidates for similar loans. The money is only given to those who keep their dwellings in good repair, provide outdoor toilets and send their children to school. It is very much in the interests of these groups of supporters to ensure the loan is repaid on time, and 97% of loans *were* repaid allowing the bank to profit, to award scholarships, to distribute mobile phones, etc. However, much micro-lending fails, especially where these informal relationships are not in place and where the bank’s chief concern is to make money rather than to right wrongs.

### **6. The role of human emergencies in formal wealth creation**

Developing countries face a constant stream of emergencies with which both communities and authorities must try to deal on an urgent basis. Such desperate expedients nearly all start as informal reactions. In large parts of India, tens of thousands of the population are near-blinded by cataracts, which grow over the pupils of the eye. Still more are mentally handicapped by the lack of iodine in sea salt on which the population must rely. Iodine is lost during distribution of the commodity. Yet if we look carefully at *The Fortune at the Bottom of the Pyramid*, we find sizeable opportunities among these desperate dealings.

Because the bottom of the pyramid is very broad and consists of millions, a product affordable to this group is affordable to everyone else and has near-universal appeal. Since a few seconds of laser surgery can remove cataracts, India now does this on an industrial scale using thousands of eye surgeons and by charging \$50 to those who can afford it. Those who cannot afford it are gathered in from villages by the busload and treated free. There is huge “profit” in this to the nation, if not to shareholders, since those formerly blind and dependent on others are freed for active work, which also frees their caretakers. Hindustani Lever similarly treats sea salt

to preserve its iodine, saving millions from sub-normality of mind. A nutritious 5-cent ice cream nourishes the calcium in the bones of millions of children.

Indian pharmaceutical companies are, in many cases, the world's chief bastion against pandemics which American middle class medicine is not geared to meet. Getting enough generic drugs to enough people in time is the aim of public policy, and treating AIDS with a composite pill of multiple drugs is one answer. Once again, the looming threat of global epidemics has triggered formal profit generating activities.

## **7. Town and village enterprises in China**

The real success story for China was not the State-Owned Enterprises that have shrunk and struggled for years, although a handful of those deemed strategic to the nation have prospered. Nor were the real successes transplanted Western companies, although some of these have succeeded. What have grown more than a thousand percent since the mid-eighties are town and village enterprises. These began as informal trading relationships at the level of the small town or village, which then grew larger and were legitimised, after the fact, by local officials who frequently acquired stakes in these enterprises and awarded them contracts on behalf of the community. In this way, the enterprise tends to shape regulations rather than regulations shaping the enterprise. What is convenient for the family and locality comes first.

The process began when families of farmers wrote a petition in their own blood (or perhaps red ink symbolizing the same) and offered to face punishment rather than continue with collectivisation. Local communist officials backed them, and the Confucian family ethic returned to China with a vengeance after years of suppression (Chang, 2011). That businesses are established before they are regulated and taxed means that informal, spontaneous, family-based initiatives are in the driving seat of the burgeoning local economy. This is a very similar process to that which Chinese ethnic communities have faced in scores of other countries. Few of them were lawyers or politicians. Most of them got on with business in a social context that was grudging at best. Communism was now that context and found itself overwhelmed, but also favoured, by the sheer volume of private informal initiatives, with which it was running to keep up.

In many cases such businesses are partly owned by their customers who guide the nature and quality of what is supplied, while local officials help with governance. Because new and unregulated traders are constantly joining, every company must remain flexible and agile since resourceful, would be competitors are everywhere. Shareholding is widely distributed through the neighbourhood to keep customers and suppliers loyal. The secret of economic achievement has always been family nurturance in which you are loved if you excel as David McClelland (1958) pointed out many years ago. Informal economies can be a proving ground for entrepreneurs (Welter, Smallbone, & Potbol, 2015) and there are explanations cross-cultural variations in the informal sector (Williams, 2015).

## **8. Academic entrepreneurs: A roundabout route to riches**

One major flaw in the conventional wisdom that the world belongs to those inducted into high finance, is that an increasingly important source of industrial knowledge is largely informal and derives from education, not the machinations of moneymen. In order to profit from science, it is usually necessary to immerse yourself in it for decades or more, and exploit this knowledge, if at all, as an afterthought.

Of course it could be argued that knowledge taught in universities is a formal activity, not an informal one, but in practice very few projects started within the university are spun out from there, despite the general supposition that this should be happening. In fact, most new enterprises originate not from *inside* the university but from its *outside* and its vicinity. Academic entrepreneurs cherry pick from neighbouring universities the cross-disciplinary teams they require. Most universities lack such teams, organized as they are into disciplinary silos. It is this informal mixing and matching of different disciplines that drives innovation. Universities have the knowledge but rarely deploy it in ways that might solve problems, although the new Allston campus at Harvard plans to change this. Better understanding the dynamics of entrepreneurship in informal economies is essential to the development of entrepreneurship within more formal environments (Williams & Nadin, 2012).

In the meantime, the growth of science-based enterprises around universities is largely an informal, emergent development. Only 70 of the 1,200 enterprises around Cambridge University are formally sanctioned university spinouts. The rest just happened to people who saw the chance to make ideas come alive in the afternoon of their lives. This route to riches involves a very lengthy diversion into the complexities of science!

## **9. Cooperating with the critics of wasteful and polluting businesses**

Another kind of spontaneous informality that is stimulating new business derives from the chorus of angry criticism by environmental campaigners. We can try to defeat these as we did the trades unions, but this could seriously set us back if they have any points in their favour. Markets are not very effective at solving environmental problems because they tend not to see much further than the short-term costs of saving energy, reducing pollution and cutting waste. Required to compete rather than cooperate, they prove unable and unwilling to meet with competitors and share the costs of complying with targets. Indeed those who renege on promises may steal a march on rival companies, in the manner of the Prisoners' Dilemma game that rewards cheating (Cassidy, 2009).

What strenuous criticism about the limits to growth can do is to uncover ways of growing that enhance the environment. It has become possible to divide and separately recycle organic from physical waste when a worn out product is returned to its maker (McDonough & Braungart, 2002). The organic waste can be fed to micro-organisms which return it to the environment, while the physical waste goes into new, recycled products. If the ownership of the product remains with the suppliers, they can sell the use of the product by lease or rental, and then have it returned to them at the end of its useful life. This system has been dubbed Cradle to Cradle, as opposed to Cradle to Grave. The product is reborn and there is every prospect that such products would be cheaper for the customer in addition to being less wasteful.

While harnessing energy from the wind, the sun, the earth and the tide are costlier today; the price in the future will fall and do so indefinitely. Since the energy from these sources is inexhaustible and renewable, the means of harnessing that energy can only improve over time. Energy prices, once they dip, will reduce without end so that we are in a race to the "tipping point" (Gore, 2009). The angry critics of our current waste, of an automobile that expends 88% of its energy moving itself, are in reality the midwives of a new generation of planet-saving products. Although it is not easy, we must detect amid this hubbub and noisy denunciations, new ways of turning crisis into opportunity. Once again the informal noisemakers are an incentive to improve.

## 10. Bath time for Archimedes

One of the oldest stories scientific inventiveness tells of Archimedes, scientist to the King of Syracuse, is when he is confronted by his sovereign with the problem of discovering if the gift of a silver crown was indeed silver or adulterated by base metals. He knew the cubic weight of silver but could not melt the crown without spoiling its filigree ornaments. How could he estimate its volume? He pondered long and hard, and growing weary by the end of the day, decided to take a bath and go to bed.

As he immersed his body in the water, the level in the tub rose and in a flash he saw the solution to his problem. He could immerse the crown and measure the volume of water displaced and then estimate what the crown *should* weigh, were it pure silver. He jumped from the bath shouting “eureka” I have found it.

This story retold by Arthur Koestler (1964) prompts us to ask if creativity is not in some part an informal activity. Archimedes could not solve his problem by staring at it in his laboratory, only by relaxing informally and taking a bath. It was when he *ceased* to focus on his problem in a formal manner and took time out that the answer came to him.

Guy Claxton (1999), the author of *Hare-brain, Tortoise-mind*, cites research showing that we have a clever, quick hare-like brain comprised of the neocortex and a slower, ruminative, tortoise-like brainstem below and behind this. The relaxed, more informal brain can solve problems while we rest, sleep or bathe so that the answer suddenly surfaces (Claxton, 1999). Einstein reported cutting himself while shaving when an idea suddenly popped up. John Cleese, the actor and comedy writer, tells of numerous cases where inspiration came as he and his colleagues relaxed (personal communications, 2009). You must in some degree share the mood of your audience, which is one of informal enjoyment.

## 11. Playing very seriously

If seriousness has everything to do with formality then surely play is informal, fun, and indulged in for sheer enjoyment. To play at something is not to confront its reality but to simulate it. According to Michael Schrage (2000), innovation is all about *Serious Play* or as we prefer to call it, Playing Seriously, because the play comes first. Play has a second meaning which is less childish and frivolous, play as if in a theatre or on stage. This may be one of the hallmarks of civilization since it enables us to examine matters of life and death without the reality of dying. Events that might traumatize us were they real can be examined without suffering, save vicariously. We can see appalling scenes and ask how and why these happened, and consider how best to avoid them. Tragedy evokes protest against certain aspects of the human condition. This process examines some the deepest questions of human existence.

What playing does is permit us to rehearse at length for the real thing. What might we do if faced with this situation? It also enables us to prepare a new product or service and see that it would fail if we launched it without further alterations. It is much, much better to fail while simulating and improving than during the final launch and having customers reject you. Not only should playing be fun but mistakes should be as inexpensive as possible. Simulating extensively reduces this cost. The longer we can rehearse informally, the less ruinous will be the final, formal launch. At the rehearsal stage mistakes can be very instructive.

Playing and watching plays allows us to learn from mistakes *other people have made*. Since only one in five new businesses make it to success, learning why most have failed can prevent one from repeating at least the commoner errors. To experience these in our imaginations may be to avoid committing them. Reportedly the Dyson vacuum cleaner went

through two thousand prototypes before James Dyson was satisfied. Thomas Edison is credited with the remark about his light bulb. “I have not failed. I have discovered one thousand ways in which it will not work.” Failures are the informal preludes to success.

## **12. Errors that precede corrections**

One way in which the logic of business differs from the idealized logic of science, where every proposition is tested and must face falsification, is that business cannot avoid making mistakes, is forced to take action before all the information is in, and then corrects its errors after-the-fact. Business cannot afford to await the certainty of what it proposes. It must risk being wrong and then pick up the pieces afterwards. If you wait until you are completely sure, a competitor will make the first move and gain a crucial advantage. Even an imperfect product may mean you win over your competitors and are seen as leading the industry.

The process of making errors will inevitably be seen as informal. You err privately in order to be correct before the public gaze. No one rejoices in being wrong, yet being confounded may be a very vivid and memorable way of learning. To be surprised, even shocked, by events is a mind-altering experience. “We only learn from negative feedback” is a statement not without insight (Hampden-Turner, 1981). While being vindicated can be satisfying, it is our mistakes, which alter our perspectives. There is a lot to be said by increasing the number of events described as “errors”. If your mistakes are one-in-a-million you may fall asleep before an error is encountered. If your mistakes are one in three you are constantly struggling to reduce these and remain fully alert to the challenge.

It is a simple matter to increase the number of “errors”. You simply raise your standards so high that they are difficult to attain consistently. Alternatively, or in addition, you innovate constantly which means you are rarely right the first time. Indeed the process of Continuous Improvement advocated by W. Edwards Deming (1982) and his followers, requires continuously raised standards and unending experiments aimed at improving the situation. There is no end to quality improvement. Michael Shrage quotes the verse.

*“The road to wisdom, yes it’s plain  
And easy to express  
You err and err and err again  
But less and less and less.”*

This is the logic of successive informal approximations to an ideal. But we must be careful not to assume that the ideal is always right and the deviation always wrong. Magorah Maruyama (1963) speaks of a *deviance amplifying feedback*. In this event you introduce a random element to produce a scattershot of evolutionary differences, some of which may be selected by customers. This is a deliberate introduction of informality into the system.

## **13. Happy, informal accidents and formally prepared minds**

Yet another source of informality that powerfully shapes all innovation is sheer chance and happenstance. The Theory of Evolution has impressed upon us just how many wonders of nature have arisen by chance, through the random mutation of genes. The spectacular beauty of the peacock, the poised flight of the humming bird, the curious configuration of the sea horse, these have all evolved from accidents. Except that it is not accident alone. Beautiful and powerful creatures are selected as mates. Darwin was more comfortable with selection by tooth

and claw than selection by sexual appeal, but the latter is decisive. It makes as much sense to say we choose, as to say that our fates are decided. In practice, nature throws up a myriad forms from which we are enabled to choose the best, so that fate and choice complement each other; we *formalise the informal through selection*.

There is a tendency to downplay the role of chance, especially in the West. We tend to think that free choice should take all the credit and that we denigrate this by emphasising fate. But, if chance enriches variety and variety stimulates choice, then both these values promote each other. Once we choose our most attractive companions their genes are likely to be passed on to offspring so that chance *becomes* choice, nature and nurture intertwine.

This is never truer than when we are innovating. If we examine candid accounts of how new ideas were hatched and new products developed, the role of sheer luck looms large. You are in the right place at the right time, a book falls open on just the right passage, an investor helps you start your car on a cold night, you sit down on a test tube by accident and it sizzles, a reaction you have long sought.

But these random and informal events are not sole reasons for success. You must know what you are looking for! *Fortune favours the prepared mind* as Pasteur put it. You need to recognize “luck” when it arises and unless you are alert to its significance it will pass you by. We often see things without discovering them. In one sense we make our luck through our determination and the lucky break comes only to determined persons. Yet there is no doubt that genuine innovation is messy and the mess derives from a host of fortuitous circumstances.

#### **14. Reconstructed logic versus the logic of discovery**

Abraham Kaplan’s classic work, *The Conduct of Inquiry*, contrasts two logics, a very formal one and a quite informal one. The Scientific Method, or hypothesis and deduction, are not, in his estimation, how things are actually discovered. They are reconstructed *after the fact* in order to *verify* that what believe we have discovered is actually true (Kaplan, 1964). Our discovery must meet the test of falsification and be capable of replication by other researchers so they can see for themselves, the claims we have made, and achieve the same results.

Yet many of us write Ph.D. theses as if the scientific method were the only way to proceed and cold precise logic and procedure our only guide. Such books expose the truth as *The Double Helix* by James B. Watson, who tells of the culture of the workplace that discovered the DNA molecule, as all backbiting and petty jealousies. This revelation was deemed so shocking, even ten years later, that Nathan Pusey, President of Harvard, prevailed on Harvard University Press not to publish it! Among the controversial issues the book exposed was that the double helix was a vision in the minds of the model makers some time *before* it was proved, to account for all the observations (Watson, 1968). Insight, guesswork, faith, belief and aesthetics had all played a part in the discovery. It was NOT a simple extrapolation from the facts. It was an intuitive leap, an inspired hunch.

Many useful products are never properly formalised in scientific terms, and when and if they are formalized, this is used as an excuse to take them away from eight hundred years of practice by folk practitioners as an infringement of patents. We may know *that* something works, like aspirin, but not know *why*. Too often we confuse verification with discovery, and because holistic medicine is very hard to verify, since there are too many variables, it tends to be discounted despite centuries of valued use.

## 15. Diverging informally and converging formally

The psychological researchers Getzels and Jackson (1962) compared the thought processes of creative and less creative students and discovered that creative students *diverged* in their thinking processes. Asked about “the uses of a brick”, those thinking in convergent styles would give formal answers like “building a house or wall”. Those thinking divergently would respond “a tombstone for a mouse. It was among divergent thinkers, who *later converged on something new*, that innovation was found. If we examine a problem-solving team, their members first brainstorm or free associate with multiple ideas, and then reach a solution before time runs out. This is a process of diverging informally and then converging formally.

Liam Hudson (1966) traced this difference to the “two cultures” as illustrated by CP Snow (2012). Students of liberal arts tended to diverge in their thinking and students of the sciences tended to converge. This was because there were known answers in the hard sciences but not in the liberal arts. However, genuine innovation, wherever it occurs, requires both kinds of thinking, reformulating basic questions to derive new answers. Nevertheless, it is clear that informal divergence *must precede* formal convergence in the same way that discovery preceded verification in our previous section and accidents preceded seizing upon them in section 13. Informality comes first.

## 16. The formal economies of scale and the informal economies of scope

The economies of scale have had a large historical influence and have produced huge payoffs through the formal design of the workplace as a giant machine. The more products that could be mass-produced and mass-marketed the lower their costs and the more people could afford them. Henry Ford famously said that customers could have any colour so long as it was black. By doubling wages, his workers could afford to buy the cars they made. China’s competitive national advantage is not unconnected to its massive market of 1.2 billion people. It is the low cost producer par excellence, but this is not its only competitive advantage.

There is a second, more informal advantage, that of producing a unique premium product that no one else can match (Porter, 1980). Here the supplier creates something so rare, so personal, and so customised, that its equivalent exists nowhere else and the supplier has a virtual monopoly. This is accomplished through economies of scope. While Porter urged us not confuse these two, but to concentrate on both, closer examination shows that they can be advantageously combined with one another. Standardization is indeed powerful, but so is customization and personalization.

The first fact to grasp is that economies of scale do not necessarily obviate economies of scope. These operate at different levels of abstraction. At the *component* level it is possible to order standard components by the million, and standard bricks for a house, and build these into a unique architectural design. The fact that the pieces are uniform does not mean that the completed structure, at the level of *configuration*, cannot be original, unique and customized for that particular client. Indeed, were the components not standardized, this would cost the customer considerably more.

The finished product may be the only one of its kind in the world, and so, completely informal, while the bits and pieces from which it is made, are all formal, routine materials that can be picked up from most distributors. A good example of this process is Dell Computers, which does not make computers but assembles them to order. It orders components in huge quantities to keep its costs low and offers to many customers a complete IT system that will monitor the customer’s strategy and only its strategy, every part having been joined to this larger,

purposive system, with websites that record and describe all transactions and inventory levels replenished just-in-time. The economies of scale and scope have been fused in an informal synthesis of formalities.

The Toyota Lexus follows a similar procedure. The basic chassis and wheelbase are mass-produced and standardised for all its vehicles, but the Lexus is customised after being ordered from a showroom. The precise combination of optional features is assembled to order within days and then delivered, a near unique synthesis of standard components.

### **17. The shock of recognition, freshly configured formalities**

Arthur Koestler (1964) famously observed that innovative and creative activities give us a *shock of recognition*. This is a paradox, but an important one. At one level we get a *shock* because this has never been seen before, and at another level we *recognize* its value and therefore wish to acquire it. Without the shock, our interest would not be aroused, and without the recognition, our wallets would not be opened. Were something *wholly new*, chances are we would not recognise it at all as being of value, and were it wholly familiar, we might not notice it.

Suppose a few years from now an electric car comes on the market with the range, speed and performance of a piston car but at significantly lower cost to the environment. The recognition would come from these equivalent performance characteristics; the shock would come from the fact that an electric car can now deliver this with significantly lower pollution levels. If we did not know what an electric car was or could do, this lack of recognition would kill it. Part of the recognition comes from knowing *yourself*. If saving the planet is important to you then this is part of the recognition. All innovation is in part strange, and in part familiar.

### **18. The informalities of the creative class**

There is a growing body of evidence that America and other parts of the world are developing informal cultures that generally support a creative class of entrepreneurs and high tech industry. This has been specifically featured in a book by Richard Florida (2004). About one dozen urban centres provide around 70% of America's innovation. Without Seattle, Silicon Valley, the Bay Area, Cambridge-Boston, Austin Texas, Boulder Colorado, New York City, and parts of Los Angeles, there would be very little innovation.

What characterises these parts of America is highly informal, liberal minded, egalitarian, cosmopolitan, diverse, highly educated, urban environments. Gay toleration is higher among these cultures than anywhere else and gender equality is rife. Without these values, people will not want to inhabit such areas and there will be no highly skilled, creative work force from which companies could recruit their employees. The companies appear to be following the people who most eschew formalities, save those of education and professional skills. It is unlikely that there is any pronounced proclivity for gay people, simply a tendency to tolerate new ideas and lifestyles in general and on principle, as a prelude for evaluating them. We cannot entertain and consider what revolts us.

What is increasingly clear is that values originate within key clusters in the vicinity of certain urban centres and that creatively oriented companies are obliged to locate in such communities to attract the right people. These people, in turn, know their value and demand informal kinds of management, which encourage high freedom of expression. Loyalty is less to companies than to sets of ideas informally shared. "Coffee bar creativity" has been described wherein people meet in coffee bars, share experiences, and decide to go into business together on the spur of the moment because their visions are similar. There are those who have considered

informal economies as incubators for the creation of new enterprises (Williams & Martinez, 2014).

Start-ups of the kind around Cambridge in the UK, Boston-Cambridge, and Palo Alto are of course informal by definition. Employees may have no salaries and simply share the fate of a new technology, each taking a part in this. Companies of less than 150 people are typically on a first name basis and cohere informally through personal knowledge. It is no coincidence that these companies are much more creative than larger companies by a factor of ten times or more. And it is start-ups that create most new jobs of a high calibre. Entrepreneurship and technological innovation go hand in hand, however the availability and entrepreneurial use of technology in developing countries is historically different than in developed countries, which have the resources to innovate (Pathak, Xavier-Oliveira, & Laplume, 2016). The socioeconomic challenges in Latin America, for instance, have much to do with issues between technology and the informal economy (Sojo, 2015).

It is widely canvassed that Silicon Valley grew out of the Berkeley Student revolt of 1964. Certainly Steve Jobs made no secret of his hostility to IBM and its mainframe computer. The Apple 1 was a tool of personal liberation, that gave power to the person, as was “management by wandering about” in Hewlett Packard; a process of canvassing the best ideas among creative employees. Once again we have found that informality is a major seedbed of innovation, a prelude to greater things.

#### **19. Closed, internal, formal, R&D vs. open, external, informal relations with the wider ecosystem.**

The conventional view of innovation is via Research and Development. This made a lot of sense when IBM employed the majority of computer scientists in the USA and could afford to pay them better than anyone else. It makes less sense when 95% of the experts are outside. Formal R&D grows out of formal education and tries to extend this. To call this “closed innovation” is perhaps unfair since all innovation is open at the moment of conception. But the closure comes soon after the innovation because the company wishes to keep its new developments secret from competitors. Even suppliers may not be told what will be done with what they supply, lest information leak out. The result is that they can do little to help their customer who has kept them in the dark about daring plans.

There are several problems with innovation driven largely by R&D. One is the Not-Invented-Here syndrome, a tendency to over-value what is done internally and under-value what is done externally. This is particularly serious where the output of small creative companies is ignored. These are usually more generative of novelty than larger companies, as we noted earlier. A second problem is that R&D comes to be regarded as the sole repository of genius in the company with everyone else in a supportive role. R&D may even forbid entry by other members of the company. The third problem is that innovation is seen as something pushed inside-out not outside-in. A fourth problem is the relative neglect of *process* innovation, making the same product but in better, cheaper ways. R&D typically concentrates on product innovation alone.

In contrast to closed innovation is open innovation (see Chesbrough, 2003). This is far more informal and may include as many as several hundred suppliers who are told what the company plans do in enough detail to know what they might contribute to this, including their own R&D expenditures. For example, a manufacturer of solar roof panels needs to know the prospects for greatly improved photovoltaic cells. Also, will a new form of heat-absorbing raw material come on the market, which is better able to convert sunlight? Such knowledge is

essential. Contributions from suppliers are especially important in electronics since many innovations, in many different industries, derive from new electronic devices. New robotics or new LED's may also revolutionise the appeal of a product. To keep suppliers in ignorance is to miss many opportunities for product improvement, even radical transformation.

If we define innovation as a novel combination among components, then a supply chain provides hundreds of these and their numbers greatly increase the chances of one or more new combinations being found. The place to innovate is where all these ingredients meet. Suppliers cannot know of their potential to assist a breakthrough unless they are informed of their customer's vision, however risky this might be. For example, the price at which unused energy is sold back to the grid could double or quadruple the rate of new installations. The company needs to know this.

Open innovation is much more than opening up to members of your supply chain. Proven entrepreneurs may be allowed to examine patents, as Philips has recently done with thousands of its unexploited ideas. Small creative companies may be acquired and supplied with patents. The company may agree to co-invest or act as a customer of the products developed, or simply charge a royalty. It is better that something be done with these ideas than nothing. In addition, co-creation with customers may be proposed. Plotting the future with your customer tends to bind him to you. Even joint ventures with competitors may be tried. In all such cases, the most valuable resource is *the wider ecosystem*, not the R&D department, although the latter may be rejuvenated by a development outside that is brought back in house.

An increasing number of companies have directors of *internal* innovation and *external* innovation who meet regularly to cross-fertilize ideas. The point is that new opportunities may arise from anywhere in the ecosystem and many consultants have arisen. They arrange informal meetings and interactions, and build new bridges between ever-wider memberships.

## **20. The Age of Informality: Selective buying from the most responsible companies**

In fact, the full thrust of informal pressures on companies may have only just begun. The Internet makes possible the rapid mobilization of public opinion and it is but a matter of time before consumers start to buy selectively from companies that exhibit the most social responsibility and "share the wealth" strategically (Ketchen, Ireland, & Webb, 2014). We have already seen boycotts and accusations that do corporations no good, but a far more potent lever is to reward those behaving ethically in various fields, those environmentally and educationally sharing wealth with third world suppliers, following fair trade terms, providing equality of opportunity for minorities and women, instituting good labour relations, maintaining high safety standards for products, and promptly paying contractors.

There is every chance of a powerful consumer organization publishing excessive payments to senior executives and thereby motivating shareholders to keep these in check. There is no inherent reason why banks should not be rated on the loans successfully made to start ups rather than loans for credit cards dragging users ever further into debt. It is surely time that banks competed with *each other* rather than naïve consumers, but it requires their comparative charges to be assessed and publicised to those consumers who might then switch by the thousands to the less avaricious.

There is very clearly an informal rage brewing in the USA and other western countries. In many cases this is incoherent and leaderless, as in the Occupy Wall Street movement, but it will find formal expression sooner or later and businesses would be wise to make ready. There is an unprecedented decline in America's fortunes and much of Europe shares her fate. China, which

as recently as 1979, was an economic basket case, now threatens to set the standards in a world of sustainable systems, and has a huge treasure chest to spend on this. There is much evidence that the plight of the USA is seen as, in part, a moral decline and that millions of people are in search of a new vision.

If we can formalise these solutions effectively, there is hope. If we cannot, then we have only shouting matches and attendant shock-jocks to look forward to. We will be consumed by our own inchoate fury at what we cannot understand or remedy.

## Conclusions

Virtually anything that is innovative, which is corrective, which aims to qualify the status quo, or is in its early manifestations, also represents the informal. It behoves us to take these currents *very* seriously because they constitute a powerful critique of the present situation even where they lack direction or leadership, or seem to offer no clear solution. The anger often displayed by developing nations and the world's poor, who first raised the idea of an informal economy, should be enough to tell us something is very wrong. Sooner or later this informal, free-flowing lawlessness will be formalised and the skill with which this is done will prove decisive in remedying or perpetuating our malaise. With the benefit of careful research, we have noted that the emergent norms of factory workers were remedial and constructive in their impact, that trades unions created for themselves systems compensatory to their afflictions, that the networked survival systems of immigrant and sectarian communities may create new wealth on an unexpected and prodigious scale, that the ethic of the extended family can boost, rather than detract from, wealth creation.

We saw that bank-lending relationships require an active concern and caring for the borrower and for repaying the lender or these fail and credit is exhausted. All this draws upon on informal relationships of affection within communities. Predatory lending from exclusively selfish sources is corrosive of trust. We saw that the ongoing emergencies facing the poor, who evoke desperate and informal attempts at aid, have within them many opportunities to render such aid both effective and profitable. There are potential fortunes to be made even at the base of these pyramids and remedies there can elevate millions in dire want. Examples of what is possible are exemplified by the success of town and village enterprises in China, as well as the six hundred million rescued from poverty by manufacturing.

We also considered the role of academic entrepreneurs whose knowledge-intensive innovation could yet rescue advanced and affluent economies from the cost cutting strategies of developing nations and their low labour costs. The challenge now is to *listen* to those critics of an unsustainable business and devise ways of rescuing the planet. The first companies to achieve this will deservedly prosper. It is a race to the tipping point of declining energy costs. The key is to innovate.

But innovation has always had major informal components. Archimedes had to relax informally before he could solve his problem. Innovators love to play informally and in rehearsals, as the preparation before they finally succeed, and many errors must be corrected along the way. Accidents, which are manifestly informal, are seized upon by prepared minds and discovery is a messy process. It is verification that is formulaic. Those who would create must diverge beyond the formal boundaries of their discipline or profession yet they will later converge on a new solution, which is formalized in its turn.

Of the two paths to wealth creation only economies of scale, with its falling costs, is formal. The economies of scope, rather than scale, of the enterprise seek the uniqueness of the customised product and cost savings (Panzar & Willig, 1981). They possess characteristics associated with the informal. So-called novelty is rarely new in its entirety, since innovation needs to be recognized and must be partly familiar. Like in a grammatical English sentence, old words may take on new meanings in a “shock of recognition”.

There is increasing evidence that more innovative parts of the American population draw on a set of norms high in informality and liberality in which great diversities of values are tolerated and sampled. This seems to be an essential prerequisite for an innovative mind-set. Innovation is today advanced less by formal R&D and more by exploiting the hundreds of cross-connections within the industrial ecosystem in a series of fortuitous encounters. We appear to be entering an age of informality.

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English abstract

# The Role of Informality in Socioeconomic Wealth Creation

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## Abstract

The informal economy is becoming a formidable socioeconomic force, neither taxed or under government control. Initially associated with the economies of developing countries, the informal economy operates outside of established formal methods of wealth creation. Developed nations are now contending with the informal economy, where it appears to contribute to the destabilization and evolution of formal systems of governance. The dynamic between formal and informal economies is challenging international law due to increased competition outside of well-defined rules, regulations and guidelines for doing international business. The authors acknowledge entrepreneurship and innovation are key drivers of the informal economy. They contend that, since formal economies have also become heavily reliant on technological innovation, the resulting rapid, sometimes radical, systemic changes are the result of informal economic forces. Competition between industrialized nations is moving domestic and international business towards an age of informality.

**Keywords:** Informal, Formal, Economy, Entrepreneurship, Innovation

French abstract\*  
The Role of Informality in Socioeconomic Wealth Creation

# Le rôle de l'informel dans la création de richesse socioéconomique

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## Résumé

L'économie informelle est en train de devenir une force socio-économique formidable, alors qu'elle n'est ni taxée ni sous contrôle du gouvernement. Initialement associée aux économies en développement, l'économie informelle fonctionne en dehors des méthodes établies et formelles de création de richesse. Les nations développées se battent avec l'économie informelle, alors qu'elle semble contribuer à la déstabilisation et à l'évolution des systèmes formels de gouvernance. La dynamique entre l'économie formelle et l'économie informelle remet en question le droit international en raison d'une concurrence accrue en dehors des règles, règlements et lignes directrices du commerce international. Les auteurs reconnaissent que l'entrepreneuriat et l'innovation sont les principaux moteurs de l'économie informelle. Ils soutiennent que, comme l'économie formelle est devenue fortement tributaire de l'innovation technologique, les changements qui en résultent, systémiques, rapides et parfois radicaux, sont le résultat de forces économiques informelles. La concurrence entre pays industrialisés amène le commerce national et international vers une ère d'informalité.

**Mots-clés:** Informel, formel, économie, entrepreneuriat, innovation

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German abstract\*  
The Role of Informality in Socioeconomic Wealth Creation

# Die Rolle der Informalität in sozioökonomischer Vermögensbildung

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## Kurzfassung

Die informelle Wirtschaft entwickelt sich zu einer beachtlichen sozioökonomischen Macht, die weder besteuert wird, noch unter staatlicher Kontrolle steht. Ursprünglich in Zusammenhang gebracht mit der Wirtschaft von Entwicklungsländern, wirkt die informelle Wirtschaft außerhalb der etablierten formalen Methoden der Vermögensbildung. Entwickelte Nationen konkurrieren nun mit der informellen Wirtschaft, wobei dies zur Destabilisierung und Weiterentwicklung des formalen Regierungssystems beizutragen scheint. Die Dynamik zwischen formaler und informeller Wirtschaft fordert internationales Recht, aufgrund von gesteigener Konkurrenz außerhalb von klar definierten Regeln, Regularien und Richtlinien für internationale Handel, heraus. Die Autoren nehmen zur Kenntnis, dass Unternehmertum und Innovation Haupttreiber der informellen Wirtschaft sind. Sie behaupteten, dass, da formale Wirtschaften sich mittlerweile maßgeblich auf technologische Innovationen stützen, die resultierenden schnellen, manchmal radikalen, systematischen Veränderungen das Ergebnis einer informellen Wirtschaftskraft sind. Konkurrenz zwischen Industrienationen steuert inländischen und internationalen Handel in die Richtung eines Zeitalters der Informalität.

**Keywords:** Informell; formal; Wirtschaft; Unternehmertum; Innovation

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Spanish abstract\*  
The Role of Informality in Socioeconomic Wealth Creation

# El papel de la informalidad en la creación de riqueza socioeconómica

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## Resumen

La economía informal se está convirtiendo en una fuerza socioeconómica formidable, ni gravada ni bajo el control del gobierno. Inicialmente asociada con las economías de los países en desarrollo, la economía informal opera fuera de los métodos formales establecidos de creación de riqueza. Las naciones desarrolladas ahora están peleando con la economía informal, donde parece contribuir a la desestabilización y evolución de los sistemas formales de gobierno. La dinámica entre las economías formales e informales está desafiando el derecho internacional debido a la creciente competencia fuera de reglas, reglamentos y directrices bien definidos para hacer negocios internacionales. Los autores reconocen que el espíritu empresarial y la innovación son los principales impulsores de la economía informal. Afirman que, dado que las economías formales también han dependido fuertemente de la innovación tecnológica, los cambios sistémicos rápidos, a veces radicales resultantes, son el resultado de las fuerzas económicas informales. La competencia entre las naciones industrializadas está llevando los negocios nacionales e internacionales hacia una era de informalidad.

**Keywords:** [Informal, Formal, Economía, Emprendimiento, Innovación]

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Italian abstract\*

The Role of Informality in Socioeconomic Wealth Creation

# Il Ruolo della Informalità nella Creazione Socioeconomica di Ricchezza

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## Abstract

L'economia informale sta divenendo una forza socio-economica molto rilevante, senza il controllo di tasse o governi. Inizialmente associata con economie di paesi in via di sviluppo, l'economia informale opera fuori dai metodi stabiliti della creazione di ricchezza. Paesi già maturi ora si trovano a confrontarsi con queste economie informali, e questo appare contribuire alla destabilizzazione e evoluzione dei sistemi di governo formale. La dinamica fra economie formali e informali sfida la legge internazionale a causa della concorrenza che avviene fuori da regole ben definite, norme e linee guida per fare business a livello internazionale. Gli autori riconoscono che imprenditoria e innovazione sono gli aspetti propulsivi dell'economia informale. Mettono in evidenza che, poiché le economie formali sono giunte a dipendere in modo consistente sulla tecnologia, i risultati rapidi, a volte radicali, cambiamenti sistematici, sono il risultato di forze economiche informali. La competizione fra nazioni industrializzate sta spostando il business a livello nazionale e internazionale verso un'epoca di informalità.

**Keywords:** informale; formale; economia; imprenditoria; innovazione

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Chinese abstract\*  
The Role of Informality in Socioeconomic Wealth Creation

# 非正式□□在社会□□□富□造中的作用

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## Abstract 摘要

非正规经济正在成为一个强大的社会经济力量，既不征税也不受政府控制。最初与发展中国家的经济相关联，非正规经济在财富创造的正规方法之外运行。发达国家现在正在与非正规经济竞争，它似乎有助于治理正规系统的不稳定和演变。由于明确规则、条例和准则之外的竞争加剧，正规和非正规经济之间的动态变化正在挑战国际法。作者认可创业精神和创新是非正规经济的主要驱动力。他们主张，由于正规经济同样严重依赖于技术创新，所产生的快速的有时是激进的系统性变化是非正规经济力量的结果。工业化国家之间的竞争将国内和国际业务推向非正式经济时代

**Keywords:** 关键词, 非正式, 正式, 经济, 企业家精神, 创新

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