

Hypothesis

*Self-motivation is crucial to making a business dream become a reality, but humans are prone to procrastination.
Investigate how product design can motivate future entrepreneurs to give flight to their business ideas.*

Design Analysis



Fig. 1

Nike+ is a system designed to motivate runners through self-analysis of performance and gamification¹. It uses several components to enable this: A pedometer is fitted inside a Nike+ enabled running shoe to record the user's step-count. This count is then synced wirelessly with an iPod, a wearable Nike+ SportBand or the more advanced Nike+ SportWatch GPS seen in Fig. 1 during a run. Data is stored on the iPod/band/watch until it is connected to an Internet-enabled computer via USB. The computer then uploads the users data to the Nike+ server, which generates infographics that allows them to analyse their performance, set goals, follow other users

¹ the process whereby game mechanics are applied to real life situations to increase motivation.

statistics and create group or one-to-one challenges. This comprehensive feedback, goal setting, surveillance and social comparison system manipulates the extrinsic and intrinsic motivators of its users to keep people running, expand Nike's market² and build brand loyalty³. The system even 'prods' the user with 'run reminders' if it detects no recent usage.

Nike's running communication often features vividly dressed runners in the city and the watches visual language is consistent with this urban theme. It has a masculine, minimalist and matte-black form connoting durability, empowerment and a dark, urban backdrop. This sets off the energetic, vivid yellow (a colour Nike calls 'Volt') details. The slots on the wristband not only function to make it more flexible, but echo patterns seen in urban environments, such as high-rise building windows and road-markings.

² The author has observed users of Nike+ encouraging friends to get involved. As a result of this behaviour, Nike sells more products to a wider audience. Since the motivation to run is increased, products are used often and will need to be replaced more regularly.

³ If a user creates a running profile with Nike+, this personal commitment makes it less likely that they will switch to a competitor's system.

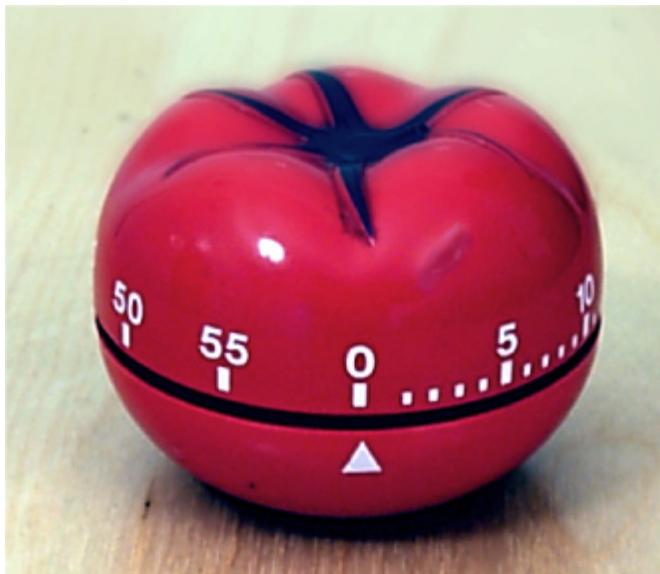


Fig. 2

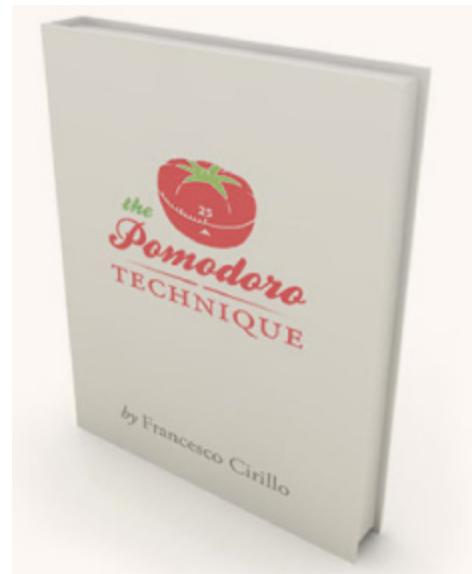


Fig. 3

The Italian Pomodoro is an object originally designed as a kitchen timer, later appropriated as a component of a popular time management system called “The Pomodoro Technique”. The technique uses the timer to ‘gamify’ the working process, challenging the user to remain focused on a task for 25 minutes and then rewarding them with a 5 minute break. These focused working periods are called “Pomodori”. (Nöteberg 2009) The user is required to plan tasks that they need to do and estimate how many Pomodori are needed to complete them. The Pomodoro has become an icon synonymous with productivity and such was the success of the system, the Pomodoro was re-branded specifically for The Pomodoro Technique. The very existence and success of this system demonstrates that humans are prone to procrastination, and that it can be helped by external systems and devices. Removed from its intended context, and compared to other objects one might find on a working desk, the tomato form of the Pomodoro suggests novelty and an endearing

humour, although the feedback from its visible countdown and physical ticking of the mechanism creates a time-pressured environment which focuses the mind of the user to work effectively.



Fig. 4

Stonemasonry is a an example of flow⁴-enabling work, driven by intrinsic motivation.

Among other benefits, it is consistently challenging, demands a strong vision of the final outcome, and provides constant sensory feedback during the working process.

⁴ Flow is an optimum working state, driven by internal drives that shall be covered in depth later on in the paper.

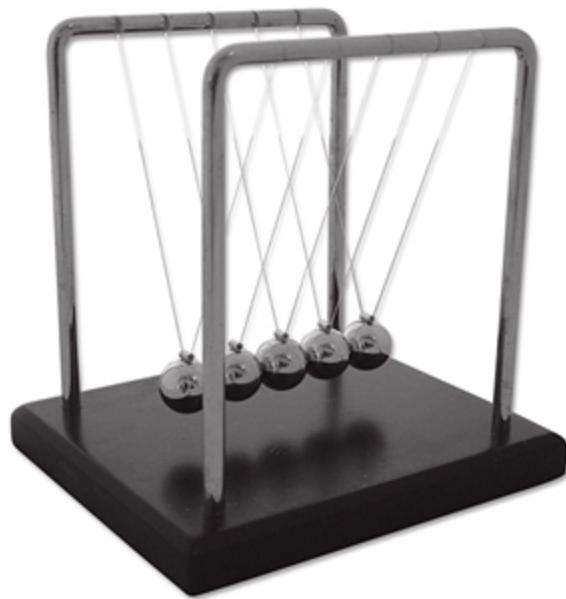


Fig. 5

The mesmerising actions of desk toys, which are often physics based, give the user somewhere else to focus when stressed or bored with work. They are procrastination tools designed, paradoxically, for the work place.

This newtons cradle, has the minimal, subdued visual language of a business accessory, perfect next to a 'power' business accessory set.



Fig. 6

The ‘Think’ chair, by office furniture giant Steelcase, is designed as a task/work chair with superior ergonomics⁵. A vibrant cyan accentuates the smooth lines of the seating area suggesting creativity and energy, whilst the hard edges and neutral grey of the supporting mechanism signifies uniform professionalism and precision. The colour options available and thinking behind this chair tells us a lot about changing attitudes to

⁵ Copy from the Think product brochure tells us "As you sit and change position throughout your workday, it senses what you need and immediately responds, adjusting itself intuitively to provide support in all the right places.

Innovative back flexors hug your spine and work in concert with flexors in the seat, automatically changing shape to follow and support your moves. Lean forward, lean back, and the chair tracks with you, leveraging your body weight to make every movement smooth. Think feels good, from the first moment you sit to the last."

the work place.



Fig. 7, Fig. 8

Gone are the days of the cubicle, successful companies now know that the key to productive employees lies in their intrinsic motivation. Liberal work spaces like Facebook's Palo Alto, California office (Fig. 7 and 8) use visual cues to break down the boundaries between work and life. Stylised furniture is combined with humorous objects and bright colours to generate a feeling of play and childlike exploration. The 'seriousness' associated with traditional work spaces is all but stripped. The plush furniture and cushions connote comfort and an open plan layout not only allows workers to see what others are doing, share ideas and communicate effectively, but also highlights the empowerment and autonomy given to the employees. The presence of bikes within the office demonstrates the fusion of work and leisure. In the nearby 'hang out area' DJ decks, something associated with leisure time, sit in the space providing a stark contrast to the work spaces of the past.



Fig. 9

This piece of medical equipment, called an incentive spirometer, is designed to help patients with breathing difficulties exercise their lungs⁶. The aim is to progressively get all three balls to the top of their chambers by exhaling long, controlled breaths into the spirometer. First the leftmost ball lifts, followed by the middle and the rightmost depending on the length and consistency of the breath. The graded colours represent difficulty and give the user visual feedback to reference their progress and a tangible focus to aim towards. The visual lightness of this apparatus and the use of shades of aqua-blue suggests purity and fresh air.

⁶ The AARC Clinical Practice Guideline (1991) states that “the objectives of this procedure are to increase transpulmonary pressure and inspiratory volumes, improve inspiratory muscle performance, and re-establish or simulate the normal pattern of pulmonary hyperinflation.”



Fig. 10

“A messy desk is the sign of a cluttered mind.” (Bayne 2004:23)

An untidy desk does not invite a user to sit down and work at it. It causes stress, anxiety, slows down working and externally suggests that the user is a slob, unprofessional, and unorganised. Nevertheless, without a systematic approach to working and even when challenged with a modest project, this problem is easily realised.

Literature Review

"Blessed is the man who has found his work, let him ask no other blessedness."

-Thomas Carlyle

In the context of a capitalist society, starting a business can empower people to express their internal drives. Entrepreneurial pursuits allow the subject to build self value whilst doing something they love and making a living. Sigmund Freud's psychoanalytic theories explore internal instincts and posit that "we are bound to suppose that a unity comparable to the ego cannot exist in the individual from the start; the ego has to be developed" (Freud 1914:76-77) The self must be validated through the creation value. Through reflection and introspection the subject is defined through an object of its passion or creation. The subject is defined by their creation and fed by its reception, positive or negative. The creation becomes the ultimate mirrored reflection of the internal self. (Gallop 1985:81) As Carlyle aptly states, it is a circumstance of blessed discovery.

This paper will examine the motivation behind why people want to start their own business and explore the drives which push people to work, as well as the problems that obstruct self-motivation. It will then posit a set of parameters which may be manipulated by product design to enable people to self-motivate in a solo working environment.

Under the framework of this research question, the entrepreneur has been defined as a person who is “willing, and able to convert a new idea or invention into a successful innovation.” (Schumpeter 1950) This paper will explore motivation as a subject’s personal desire to complete a task. Self-motivation will be detailed as the inner prompt which thereby stimulates the subject to work from internal enthusiasm and personal ambition. A salient problem which may obstruct self-motivation is procrastination; simply, the avoidance or delaying of a task.

Entrepreneurs have never been so vital to societal and economic shifts; their existence is “not only necessary for a healthy economy but also critical for sustaining prosperity and creating new jobs”. (Henry, Hill and Leitch, 2003:3) Innovation births new businesses which in turn generate an optimistic boost for the economy, this results in wealth and fresh job opportunities being opened to the market.

What drives the human brain to strive for innovation? What pushes people to ‘go it alone’ and start their own businesses away from the safety of a corporate roof? Edward Deci and Richard Ryan posit that “there is a set of universal psychological needs that must be satisfied for effective functioning and psychological health. ... competence, autonomy, and relatedness”⁷ (E. Deci, R. Ryan 2008:183)

The innate hunt for satisfaction of these universal needs, once quelled, spurs the emergence of intrinsic aspirations for “affiliation, generativity, and personal

⁷ Notable are D. McClelland's theories of motivational needs which detail 'the need for achievement', a character bias typically found in successful entrepreneurs. A person with N-ach is motivated by the desire to meet challenging, but realistic goals. (McClelland 1967) Restrictions in a current job could result in deep frustrations of these internal desires.

development" and extrinsic aspirations, such as "wealth, fame, and attractiveness." (E. Deci, R. Ryan 2008:183) With the right job structure, these needs could potentially be met by working within a company, however, if the worker's intrinsic ambitions are not complimented by the companies' core mission, or their extrinsic ambitions are not satisfied, then this could spark a desire for the subject to start their own company.

Abraham H. Maslow conceived the Heirachy of Needs (Fig. 11), a prolific motivation theory which proposes that humans have innate physiological needs which, when met, promote the emergence of more advanced needs.

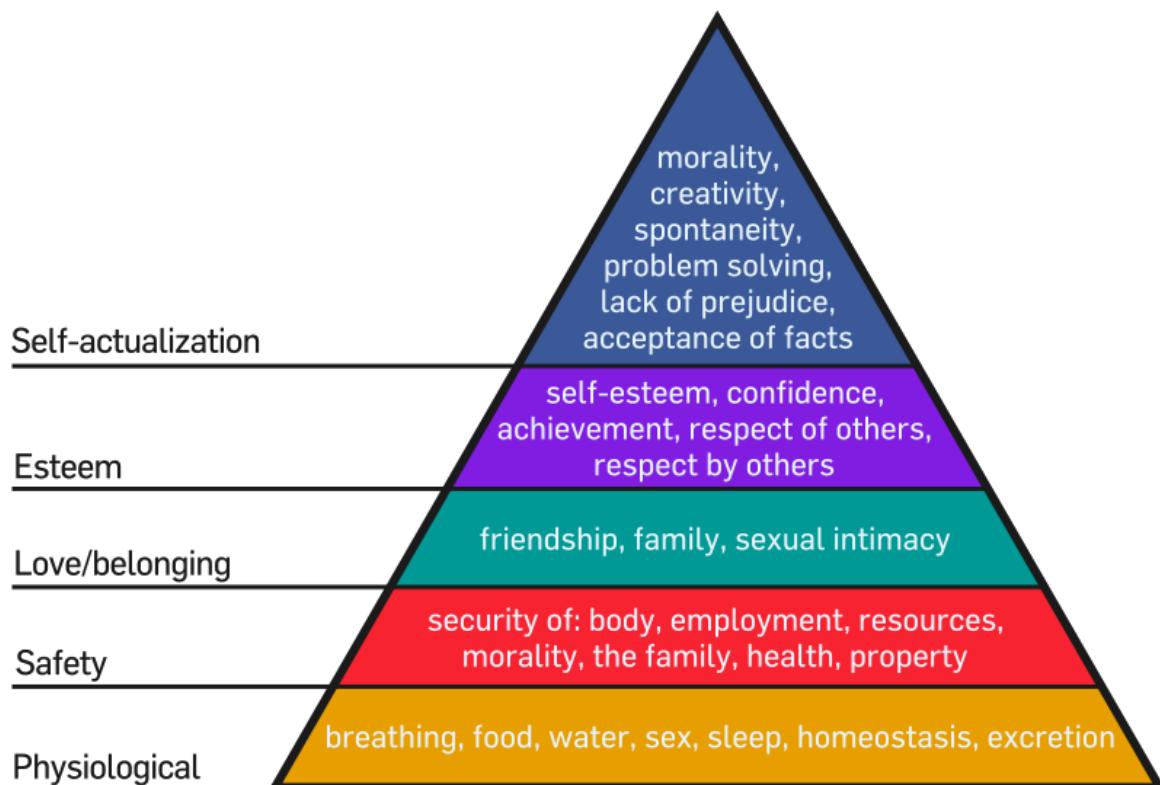


Fig. 11

The highest level describes a need for ‘self-actualization’, which can only be reached after the prior levels of deprivation needs have been satisfied. ‘Self-actualization’ was a term originally coined by Kurt Goldstein⁸ (1939) and was used by Maslow in his book “Motivation and Personality” to describe the notion that we are all fitted for a purpose. He said “what humans *can* be, they *must* be.” (Maslow 1970:22) Unlike the stage prior, the final is not driven by deficiency of extrinsic motivators, but rather an internal desire for personal growth and self-fulfilment. (Maslow 1970:66)

Maslow describes “peak experiences” which he made comparable to temporary self-actualization.⁹ He came to the conclusion that although a minority of people ever reached self-actualization, almost everyone he questioned in his study of peak experience could remember a time when they had experienced it. These observations are comparable to the contemporary work of Mihaly Csikzentmihalyi on “flow”.¹⁰ Flow is the peak of self-motivation, enabling any person to work at their full potential, devoid of a desire for extrinsic reward or fear of punishment, whilst actually enjoying it. So, how do we get there?

⁸ Kurt Goldstein (November 6, 1878 - September 19, 1965) was a German Jewish neurologist and psychiatrist who was a pioneer in modern neuropsychology.

⁹ Describing a person during a peak experience Maslow said “all his powers then come together in their most efficient integration and coordination, organized and coordinated much more perfectly than usual. Everything then can be done with unusual ease and lack of effort.” (Maslow 1970:164)

¹⁰ Flow is “the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it.” (Csikzentmihalyi 2002:4)

“The conditions required for flow to occur include lack of distractions and an activity paced precisely to match your skills, pushing you slightly above your capabilities. The level of difficulty has to be just at the edge of capability: too difficult and the task becomes frustrating; too easy and it becomes boring.” (D. A. Norman 2005:125) This means that to achieve and stay in flow state we will need clear goals that push us, that keep us learning and will also grow with our progression. “In a flow experience ... goals are usually clear, and feedback immediate.” (Csikzentmihalyi 2002:55) But what if the nature of the work prevents clear goals from being set?

“In some creative activities, where goals are not clearly set in advance, a person must develop a strong personal sense of what she intends to do.” (Csikzentmihalyi 2002:55)

Yet still, if the work is not enjoyable then there is still hope. Csikszentmihalyi further states that “the more a job inherently resembles a game - with variety, appropriate and flexible challenges, clear goals and immediate feedback - the more enjoyable it will be regardless of the worker’s level of development”. (Csikszentmihalyi 2002:152) This assertion links in directly with the motivation technique known as “gamification”, which will be covered later. First, we must ask why a product to help self-motivation is required?

The very notion of “work” within our capitalist society has become culturally embedded with extrinsic, monetary reward. We are essentially slaves; rent and bills are merciless and imminent. For the majority, work is a means to an end, regardless of whether we like our occupation or not, and working conditions may not facilitate personal growth

and enjoyment. As a result, people “think of it as an imposition, a constraint, an infringement of their freedom, and therefore something to be avoided as much as possible.” (Csikzentmihalyi 2002:160)

What obstacles confront our entrepreneur profile once they decide to take the leap into the unknown? People starting their own businesses often experience a paradigm shift from the world of being managed, to the world of managing themselves. What they are confronted with is a long-term vision born from their business idea, much like a company mission, but without the management structure. They are forced to think holistically about the way their company would work, instead of being delegated to a specific task.

The complexity and scale of this reality can be bewildering and cause the person to procrastinate. Other hurdles are perfectionism within a character. People with a fear of “negative evaluations and the consequent feelings of shame, may be especially motivated to put off the ‘moment of abysmal truth’ - delaying, avoiding, and procrastinating” (Fee and Tangney 2000:181) Faced with uncertainty about an outcome of a decision, the subject may delay making that decision and as a result, the project is suspended in a moment of uncertainty. Similarly, work that is not directly challenging a person, such as administration work, can soon become boring and cause them to move on to something more instantaneously stimulating.

With these problematic symptoms in mind, a project, such as developing a business idea can become associated only with negative feelings, resentment and frustration.

Unless confronted these emotions will lead to further procrastination and missed opportunities. This, in turn, can cause total abandonment of the idea.

Inspired by these theoretical and psychoanalytical observations, the author will posit his own theory. There is a behavioural propensity whereby, those who want to start their own business will come up with a new idea so that they can relive their original motivation, only to then drop the project again when being confronted with one of the typical symptoms outlined. As a result, they are caught in an 'Inspiration Loop' (Fig. 12).

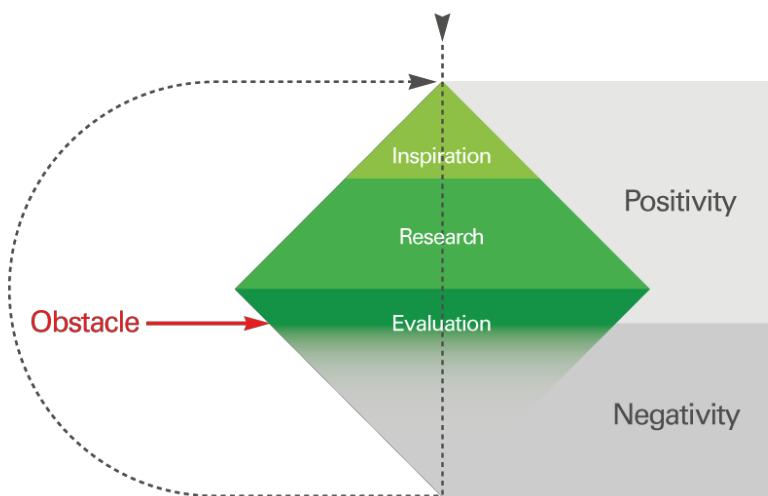


Fig. 12

“Today it is customary to argue that short attention spans are caused by advertisements, video games, music videos, and so on. But, in fact, the ready distractibility of attention is a biological necessity, developed through millions of years of evolution as a protective mechanism against unexpected danger: this is the primary function of the visceral level.... In danger, attention must not become distracted. But in the absence of anxiety, people are easily distracted, continually shifting attention.” (D. A. Norman 2005:154)

This distractibility can be further compounded with learned behaviour in response to environment. “Your brain has learned that when your body sits in that spot, you’re in ‘tactical’ mode.” (Saunders 2011) Unfortunately, for many, sitting down at a desk with a computer means an automatic check of social media messages, email, news sites and other distractions. These “discrete little bits of unexpected and novel information that activate our brain’s seeking circuitry, titillating it and inciting the desire to search for more” (J. Glei 2011) have become synonymous with the tools and places used for work, so to switch to ‘work mode’ is inherently difficult.

In relation to Maslow’s ‘Heirachy of Needs’ theory, procrastination can seemingly lead to despondency “the longer gratification can be postponed ... the easier it is for the need to disappear permanently.” (Maslow 1970:57)

Under the framework of this analysis' definition of a successful entrepreneur, problems with self-motivation and the exploration of 'flow', this paper will now explore the parameters that affect human motivation in order to manipulate and utilise these insights to inform a product design that enables a user to self-motivate.

There are four factors that can affect motivation towards a task:

- extrinsic motivation, i.e. reward or punishment external (incidental) to the actual task
- social motivation, i.e. the desire to please peers or teachers, or to be valued by peers and teachers
- achievement motivation, i.e. a concern for self-enhancement relative to others
- intrinsic motivation, i.e. an interest in the activity itself, such as curiosity driven learning.

(E. Alpay, 2000:2)

A survey was conducted, questioning 30 students as to what motivated them to write their final paper:

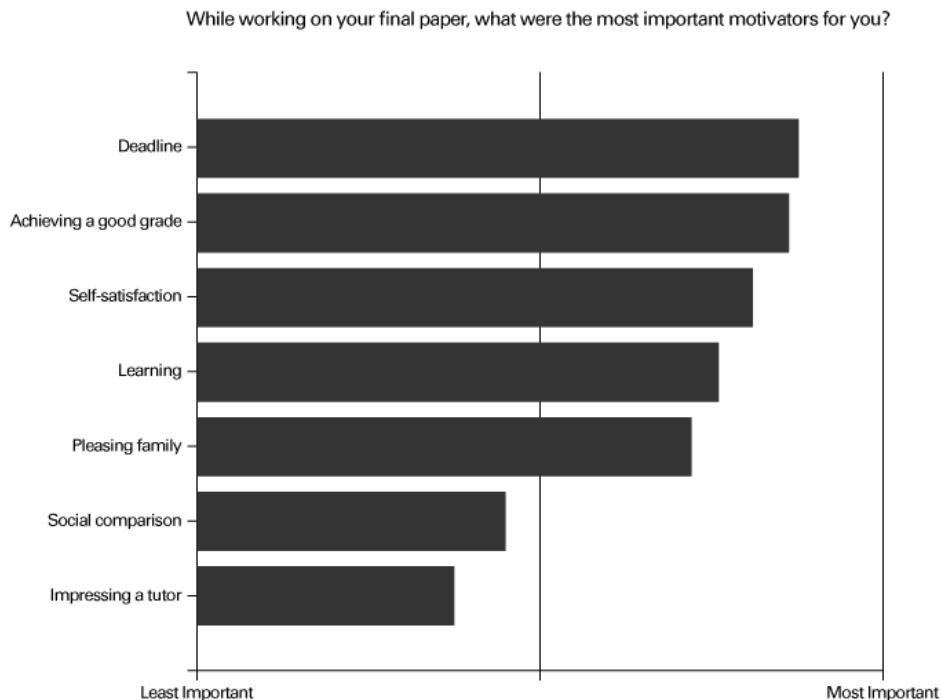


Fig. 13

The two factors that brought most motivation were extrinsic (punishment vs. reward), utilising negative affect to drive the student. On reflection, the problem with these results lies in the fact that achieving a good grade could also be viewed as a validation of good learning. A further study might ask those that voted for 'deadline' and 'achieving a good grade' how much they enjoyed the process, and it would be interesting to compare those results with the results of their papers.

This paper will now examine some definitive methods used to create motivation that may be useful in the context of product design:

Gamification

Gamification is the process whereby game mechanics are applied to real life situations to increase motivation.¹¹ It is a relatively new methodology but has so far yielded phenomenal results: “NYC-based NextJump has convinced 70% of its employees to workout regularly using gamified techniques like leaderboards and team challenges.” (Zichermann, 2011)

Feedback/self-monitoring

Psychological literature emphasises the importance of feedback in order to build and sustain motivation, which is also ‘flow’-enabling. Fogg suggests that “the goal is to eliminate the tedium of measuring and tracking performance of status. This makes it easier for people to know how well they are performing the target behaviour, increasing the likelihood that they will continue to produce the behaviour. In addition, self-monitoring technologies feed the natural human drive for self-understanding.” (Fogg, 2003:44) There is great potential here for product design. By automatically collecting statistics or providing feedback to a user.

¹¹ “Computer games provide reinforcements through sounds and visuals. The rewards also come in other ways: through points accumulated, progression to the next level, rankings of high scores, and more.” (Fogg, 2003:51)

Surveillance¹²

A product that enables other people to observe a worker's behaviour may be controversial but it could be a good way to raise anxiety and focus the user, enabling them to work more efficiently:

Social acting

Psychological prompts in a product could trigger motivation.¹³ Perhaps the form could change so the product appears sad when a set goal is unfulfilled or get so humanly 'disappointed' with the user that it starts behaving erratically and refusing to function. Could the product reward the user with a happy disposition when goals were met? Interestingly, "when environments or products yield negative effect it can cause users to become focused." (D. A. Norman 2005:27) Perhaps this product could turn a happy, pleasant environment into a negative one to trigger a reactive focus.

Sustainability of motivation

Careful thought would be required to ensure that a product designed to motivate surpassed novelty and became a proper motivation tool: "The research on intrinsic and extrinsic motivation shows that the gentler the intervention to achieve the desired behaviour change, the better the long-term outcome." (Fogg, 2003:53)

¹² In his book "Persuasive Technology" Fogg states in relation to surveillance "when people know they're being watched, they behave differently ... the person is likely to make his actions meet the observer's expectations." (Fogg, 2003:46)

¹³ "Psychological cues can lead people to subconsciously infer that the product has emotions." (Fogg, 2003:94)

Aesthetics

"We now have evidence that aesthetically pleasing objects enable you to work better." - (D. A. Norman 2005:10) This bold statement from Donald Norman states that beautiful design is conducive to productivity, he further adds that "attractive things make people feel good, which in turn makes them think more creatively." (D. A. Norman 2005:19). Undeniably, aestheticism must be considered when designing such an intimately human aid product, as it may also help enable a natural flow state.

The ideal product might develop good patterns of behaviour leading to a stronger mindset for entrepreneurial activity, where achievement and self-growth is more important than material or financial reward. It will dynamically grow with the user and improve focus to eventually bring them to be able to enter the "flow" state with ease.

Critique

The home environment often maps the start of an entrepreneurial journey; it is an ideal place to start building a business. The home requires no additional overheads and usually has the tools and resources needed to begin working on a business idea. Paradoxically, the home can be a very distracting environment and without proper self-motivation and regulation it can be difficult to get any work done there. It can therefore be deduced that the home is the ideal setting for the use of a motivational product.

We are all born with intrinsic motivation. A child does not play for reward, it is a natural curiosity and interest that keeps them active. As we grow this undergoes a subversion. Through exposure to systems, both managerial and economic, we lose our internal drive and begin to focus on extrinsic motivators as a way to get things done. As a result, we suppress who we are and what started early on in life as a course towards self-actualization then becomes a need for survival in the systems imposed upon us. However, tragic as this may sound, a certain level of control is required since we cannot do what we intrinsically want all the time. Without a well-rounded education then we may never have been able to use the tools required to project our intrinsic motivation. A designer may prefer to draw more than anything, but if he wanted to share thoughts on a complex theory to a mass audience, then he would need to organize his thoughts and write.

Becoming an entrepreneur gives us the freedom to dream again. We can break free, as much as possible, from the systems that crush these chances of self-actualisation. We

can give ourselves the opportunity to pursue what we are really interested in, and in being successful, generate economic stability for ourselves. During this process, there are going to be things that we will find difficult or might not be suited to, but as long as it is known that completing that process forms part of getting closer to the entrepreneurial dream, then it can be approached with a positive attitude. To plan, envision and set goals is of paramount importance.

What a product should aim to achieve

In the literature review, flow was established as the peak of working ability, and so a product designed to help self-motivate should therefore aim to elevate the user to this working state as often as possible. Since flow relies on intrinsic, autonomous motivation an external agent, such as a product, would have difficulty manipulating this.

The macro-theory of human motivation, Self-determination Theory¹⁴ (SDT), can prove particularly useful in the context of product design. A sub-theory of SDT, organismic integration theory states that values and aims encouraged by systems of extrinsic motivation can become internalised within the subject and merge with their own values. There are four levels of internalisation reflecting a persons value of the external motivators presented to them. They extend from “external regulation, to introjection (for example, engaging in behaviors to avoid guilt or feel approval), to identification, to integration.” (Ryan & Deci 2000)

When a person identifies with an extrinsic motivator the person becomes aware that the

¹⁴ Self-determination is a theory developed by Edward L. Deci and Richard M. Ryan at the University of Rochester. It is examines human intrinsic motivation for behaviour and self-development. It posits that humans have a set of universal psychological needs: competence, autonomy, and relatedness. The theory has been gaining increasing popularity since the 2000s.

behaviour it encourages is personally meaningful, or in their best interests. If the behaviour resonates with the user's own internal values enough then these may be further integrated into their own values, transforming the original extrinsic into intrinsic motivation. Due to the nature of products and the stimulus that they produce being inherently external, this is particularly helpful in understanding how we might create a product designed to influence motivation to an extent that goes beyond "carrots & sticks".¹⁵ A product that initially works on extrinsic motivation can potentially lead the user to autonomous, self-motivating behaviour. The very act of a person using a product that helps them stay motivated means that the user might have already identified with the product and so this engagement sets a good trajectory for the possibility of integration through use of it.

Since a product designed to help a person work is inherently separate from the act of work itself, the difficulty we are presented with is that we cannot enable flow through direct engagement with the product, but rather the aim is to passively help generate a flow state through the user's engagement with their work.

Goal setting, planning and feedback

By setting goals and planning for the future we give boundaries to the scope of our future action and get a better idea of what will contribute toward reaching the goal. Even if the actions required may not provide immediate satisfaction, we understand that they make up part of the core goal and therefore accept them. In his book on what motivates us, "Drive", Daniel Pink suggests that managers "offer a rationale for why the task is

¹⁵ "Carrot and stick" is an idiom that is based on the way donkeys are motivated when drawing a cart. The phrase references carrots as rewards and sticks as punishments.

necessary. A job that's not inherently interesting can become more meaningful, and therefore more engaging." (Pink 2009:64)

Breaking a large project down enables it to be sectioned into small, manageable chunks. That way a seemingly unattainable project outcome is given a starting point and a set of instructions on how it can be executed. Furthermore, by setting up these small, incremental steps, working through a project becomes a smooth experience that is enjoyable. As each milestone is reached the person watches the project grow. This provides positive feedback that intrinsically motivates the person to keep going with the project. For example, the author tried two ways to write this paper: straight into it with a rough plan and quotes which caused him anxiety, made him work slower. The second method was a pragmatic analysis of the paper's structure, breaking it down into sections and coding quotes to relevant sections. He was able to see the paper coming together which made him feel good about it and encouraged him to keep building on it. If a product used the right data collection techniques, this progress might be visually represented by a progress bar showing the user how much work they have left to complete the project and shows how far they have already come. Progress bars are a technique commonly used in gamification.

Csikszentmihalyi provides us with a simple example of gamification. A factory worker performs the same operation six-hundred times in a working day, he has been doing it for five years and still enjoys it. Why is this the case? The worker has gamified his personal operation by challenging himself to beat his record time taken to complete it. Each time he performs the operation he looks for ways to refine the routine and speed it up. He is therefore able to engage with his work on such a level that he can reach flow state. The work is not so taxing that he gets overwhelmed, in fact, the work gets

proportionately more difficult the harder he tries, yet by constantly challenging himself it never becomes boring. It is only when he reaches the limit to how fast the process can be done that he will begin to seek greater challenges. (Csikszentmihalyi 2002:39) The work may not be inherently flow inducing, but by allowing the user to concentrate on extrinsic goals not related to the work itself, it can transport the user to a space where flow can be created, even if the work is algorithmic.¹⁶

A product could simplify the creation of daily schedules and project plans and automate the recording of user behaviour. This data could be used to provide feedback on the user's working efficiency, gamify the experience and stimulate the users need for competence¹⁷. Furthermore, what if the product could dynamically adapt to a users behaviour? If the user was not able to stick to a planned schedule then the product could make adjustments in the system it uses to compensate. It might further break up a task into smaller time blocks, with breaks in between, encouraging the user to exercise greater self-control. This could also work in reverse in that when the user becomes competent at using the system and is able to complete a task without distraction, it extends the time blocks allowing more focused working for longer periods of time. This pushing the boundaries of what the user can achieve will promote self-growth and meet one of the prerequisites for flow; an activity that is just beyond the users capabilities, but not so much that it causes anxiety (Fig. 14). Furthermore, recording the user's development and feeding it back to them would increase the effect of internalisation, affirming the products value with the user and possibly creating an emotional

¹⁶ In his book "Drive", D. Pink states that there are two types of working; algorithmic and heuristic. Algorithmic work is the kind of work that can be done by machine. It has a straight forward outcome that requires no creative thinking eg. data entry or screwing caps onto toothpaste tubes. Heuristic work describes that that has no clear goals and requires creative thinking and strong envision to complete.

¹⁷ The need for competence is a component of E. Deci and R. Ryan's Self-determination Theory.

connection.

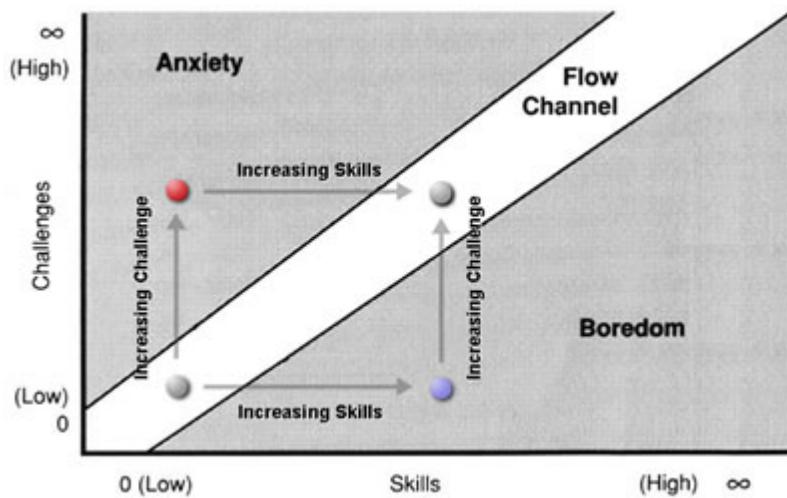


Fig. 14

Product surveillance

Humans often know when they are procrastinating. Humans even know how they procrastinate and often all they need to stop is someone to alert them when they are doing it. If a product could sense when a person is procrastinating and alert them then this might help them to stop. If the product further produces negative affect then this could lead to operant conditioning,¹⁸ causing the person to eventually stop. Of course, a product could be turned off or removed from the environment, so the negative affect should be subtle enough to be tolerable, possibly building in intensity for as long as the procrastination is happening.

If a product can observe when a person is procrastinating then it would be wise to

¹⁸ Operant conditioning is a form of psychological learning which works by exposing the subject to a stimulus every time a specific behavior is observed, causing them to modify the occurrence and form of the behaviour.

record the behavioural data and process it so that users can get feedback on their working habits.

Product as a gateway to a social realm

Using a technology-driven product to open a gateway to a social realm, in an otherwise self-governing working environment, arms a designer with a number of intangible extrinsic motivators which can help people get work done. A product that records a user's performance and submits it to a "leaderboard" for social comparison against other users might be a way to prompt improvements in performance; this will imbue the user with motivation to do better.

Rewarding a user with symbolic status symbols such as an "achievement badge", within a social context, would have the effect of reinforcing the competence drive and boosting intrinsic motivation. The reward would not be tangible, such as money or a trophy, but would rather hold meaning within the system. The rewards are less likely to be experienced as the reason for doing the task, and so less detrimental to intrinsic motivation. "Non-tangible rewards" ... "are less corrosive than cash and trophies." (Pink 2009:67) The effect of extrinsic motivation "crowding out" intrinsic motivation can be observed when people experience dissatisfaction when they turn a hobby into a job; it becomes less about the activity and more about the financial reward.

Creating the right environment

Products are able to manipulate the environment in which we work. They could bring the sound of an office into the home working environment, creating an "air of work", or alternatively they could focus the mind by producing negative affect, making it suitable

for algorithmic work. Maybe the product could facilitate heuristic¹⁹ work by creating a happy environment, making the user feel good and broadening thought processes? Notably, an attractive aesthetic can prompt feeling of happiness when using an aesthetically pleasing product, and as such, should therefore be a consideration when designing a motivational product.

Conclusion

It must be acknowledged that product design can significantly impact and facilitate self-motivation. Similarly, as explored, there are a multitude of methods available to a designer which are open to manipulation. If it is concluded that the peak of self-motivation is getting the user to feel intrinsically motivated to work, leading to flow state, the main aim should be to design a product that extrinsically motivates; this should be in such a way that the product's aims may be internalised by the user and become part of the users own intrinsic motivation. Making the user aware of their own progress while using the product will not only cause them to become intrinsically motivated, but furthermore reinforce the products value.

In order to bring about flow state, a product should constantly challenge a user, regardless of their level of efficiency. The dynamic nature of technology allows products to adapt, continually pushing the user to strive for better performance. Connecting products to the Internet will allow social elements of work to be introduced, in a controlled fashion which, combined with gamification techniques allows a product to leverage social motivation whilst minimizing distraction.

¹⁹ In his book “Drive”, D. Pink states that there are two types of working; algorithmic and heuristic. Algorithmic work is the kind of work that can be done by machine. It has a straight forward outcome that requires no creative thinking eg. data entry or screwing caps onto toothpaste tubes. Heuristic work describes that that has no clear goals and requires creative thinking and strong envision to complete.

Because of the way that capitalism operates, work has been stigmatised as something done only for extrinsic reward like money, but if a product can break down preconceptions of work then it might be possible to tap into our own intrinsic motivation. It won't be easy fighting against the constant bombardment of external short-term rewards, but if a product can show a clear path to autonomous mastery, demonstrate progression and constantly challenge us, then we might have a chance to generate self motivation and efficient work. Once the conditions of a genuinely motivating environment are established, then "the best strategy is to provide a sense of urgency and significance and then get out of the talent's way." (Pink 2009:66) After all, the human drive for self fulfilment is the purest force of productivity, simply, work is good for us. Not merely to quench the thirst of ambition or desire for ultimate efficiency, but further, for the subject to organically self-actualise, to flourish, satisfy internal drives and discover who we are.

Image List

- Fig. 1 “Nike+ SportWatch and Nike+ Stats”, photograph unknown,
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- Fig. 2 “Pomodoro Timer”, photograph unknown, http://en.wikipedia.org/wiki/File:Il_pomodoro.jpg 2011
- Fig. 3 “The Pomodoro Technique”, photograph unknown, <http://www.pomodorotechnique.com/>
- Fig. 4 Frost, S. “Stonemasonry”, <http://www.guardian.co.uk/money/2010/mar/06/how-to-cut-stone> Nov 2011
- Fig. 5 “Newton’s Cradle Desk Toy”, photograph unknown,
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- Fig. 6 “Think Task Chair”, photograph unknown, <http://store.steelcase.com/brochures/think/> Nov 2011
- Fig. 7 “Facebook Office”, photograph unknown,
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- Fig. 9 “Incentive Spirometer”, photograph, unknown, <http://www.sportstek.net/spirometer.htm> Nov 2011
- Fig. 10 Author’s own. (2011) “Messy Desk”.
- Fig. 11 “Maslow’s Hierarchy of Needs”, illustration unknown,
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- Fig. 12 Author’s own. (2011) “The Inspiration Loop”.
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- Fig. 14 “Flow Channel”, illustration unknown, <http://hypergogue.net/the-play-channel/>, Dec 2011

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Appendix 1: mini interviews about motivation

Nick Jones - Runner

"I used to go out and run for the sake of it. I was preparing for a marathon when I started using Nike+, so to understand how fast I was running and how tired I would be helped me make adjustments to enable me to run a marathon realistically."

"I have just recovered from a back operation, and am getting back into running again, so I am using my historical data to set goals. Seeing my feedback motivates me, I feel proud of my stats; I share them on Facebook."

Sanchez Brown - Regular Gym User

"When I look skinny I go to the gym because the girls aren't going to want you. When I see my friends looking bigger than me it makes me want to go more and work harder... They will also taunt me saying 'Sanchez, your arms are getting smaller!' I laugh it off but it sticks in my mind when I am working out"

"When I work out, seeing myself looking 'pumped' in the mirror makes me want to sustain that size, so I work harder."

"I have a target weight of 13 stone, I need to hit and maintain that weight."

Patrick Laing - Designer

"It's really good to have someone to work with. I have an intern who helps me stay motivated; I have to make sure I prepare work to delegate to her and she regularly asks about ongoing projects."