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Ireland

To test the effectiveness of Hygiene-Motivation factors on Irish Accountants and American Engineers in predicting Intrinsic-Extrinsic job satisfaction

A dissertation submitted in partial fulfilment for M.A in Human Resource Management

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**Submission of Thesis and Dissertation**

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## **Abstract**

The derivatives of motivation and fulfilment of needs leading to satisfaction has always been an endless puzzle with many theories by psychologists and behavioural economist coming along providing insights about human behaviour. A typical human being spends almost 60% of his life; working. As this is a major portion of someone's life it begs to answer the question, 'how can one love what he does in this 60% of his or her life?' or an even better question, how can that process be made satisfying? Digging up an extensive literature on motivation and job satisfaction theories this research tries to answer the question, how to best motivate the sample of Irish Accountants and American Engineers using Herzberg's Motivation-Hygiene theory. It makes use of Quantitative methodology and takes scaled questionnaire for data collection techniques and by using SPSS provides valid and reliable data. The conclusion that this study reached was that when it came to motivating people intrinsically, 'work itself' factor worked perfectly whereas when it came to extrinsic motivation, 'working conditions' bagged the prize for being the most prominent factor in extrinsic job satisfaction which were similar to the studies conducted previously on different sample occupations indicating that there is a distinction in occupations having 'cognitive skills' and 'mechanical skills'.

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# 1. Introduction

## *1.1 Background*

The topic of employee motivation is interesting not only because it's a puzzle businesses around the world are trying to solve but also because it concentrates on the organisation's most important asset; it's Human Resource. One of the most prevalent ways of doing that is by rewarding people. Intrinsic and extrinsic reward systems, being the two main type, have been identified and studied by various economist and behavioural scientists. What motivates employees in present world is the central research problem being identified, as history is evident in showing economists and researchers battling to answer the question of what triggers humans to perform by asking it in their own way; "How do I get employees to do what I want?" (Herzberg, 1987), "How to get people to do their best at the workplace?" (Nohria, et al., 2008), "How do I motivate my people?" (Landes, 2006).

Behavioural economists and theorists are arguing on 'Intrinsic' and 'Extrinsic' reward systems and methods of motivation that result into satisfaction of employees in the workplace. Daniel Pink (2011) argues that Intrinsic factors are superior to Extrinsic. Landes (2006) on the other hand contradicts saying that people can be given extrinsic incentives, but if those incentives fail to resonate with what already matters to them with what they are inherently motivated by, the incentives will have no effect. A study by Ariely et. Al (2006) being one of the very few studies conducted is of recent origin and directly relates to the current research topic which empirically proved that extrinsic motivators work only on occupations using mechanical skills, when it comes to occupations using cognitive skills they fail, when conducted on a sample of MIT students. The topic 'To test the effects of Hygiene-Motivation factors on Intrinsic-Extrinsic job satisfaction on occupation with cognitive skill set in two different economies' relates to the problem being identified and carrying out this

research may help understand the major problem organisations are facing in present times as how to keep top talent satisfied, engaged, motivated and retained.

Thus the research problem has been disintegrated into separate sections which gives rise to two different hypothesis analysing two distinct variables.

### ***1.2 Title/ Research Issue***

The main research object is ‘To test the effectiveness of Hygiene-Motivation factors on Irish Accountants and American Engineers resulting in Intrinsic-Extrinsic job satisfaction’. Which gives rise to two aims of this study in the form of hypotheses.

### ***1.3 Hypotheses and Aims***

1. To test if Herzberg’s Motivation factors predict levels of intrinsic job satisfaction on sample of Irish Accountants and American Engineers.
2. To examine if Herzberg’s Hygiene factors predict levels of extrinsic job satisfaction on American Engineers and Irish Accountants.

### ***1.4 Aims of research***

This research aims to find out what satisfies specifically the two samples of Irish accountants and American engineers and keeps them motivated resulting in their levels of performance delivered at the workplace, as the major problem organisations are facing in present times is how to keep top talent satisfied, engaged, motivated and retained.

### ***1.5 Potential Significance***

If one looks at how employees are motivated since decades using motivational theories one can deduce that it is either ‘Rewards’ or ‘Working Conditions’ that is ‘Intrinsic/Extrinsic Reward’ systems or ‘Hygiene-Motivation’ factors as coined by Herzberg that affect a

person's dedication at work. The closest that theorists have come to deciphering human satisfaction needs at the workplace is by bifurcating them into 'Hygiene and Motivation' needs derived by Herzberg using Maslow's theory of 'Hierarchy of Needs'. The significance of this literature is that using Herzberg's theory and the current knowledge on Intrinsic and Extrinsic reward systems it is an attempt on trying to find out what combination best suits to motivate Irish Accountants and American Engineers to keep these two set of samples motivated and satisfied at the workplace.

### ***1.6 Overall Research Objectives***

This dissertation will look upon testing different variables of job satisfaction as coined by Herzberg's Two Factor theory and additional factors on Rewards, furthermore it will also help attain useful information on elements such as 'autonomy' and 'quality of behaviour' of employees at the workplace and how it affects their motivation and satisfaction at work. Some of the objectives that will be tested in this dissertation are given below.

Sub Objective 1: To determine from the employee's perspective if motivational factors are more important than hygiene factors.

Sub Objective 2: To investigate if work autonomy to better levels of intrinsic job satisfaction of employees in the workplace.

### ***1.7 Process of Research***

The study will be a Deductive approach using Quantitative methodology of research and the data will be collected using two Scaled Questionnaires, one assessing 'Hygiene-Motivation' factors and the other assessing 'Intrinsic-Extrinsic' job satisfaction.

## ***1.8 Structure of Dissertation***

After the introduction the thesis takes off with the Literature Review which acts as a heart, pumping important theoretical data for studying the questions identified by this research. To connect to the background and significance of this research a more deliberate review and synthesis of previous studies and researches will be studied by placing this project within the larger whole of what is currently being explored. This will be done by analysing the research questions previous researchers have asked, the methods they have used, and understanding their findings and finally access what is believed to be missing by addressing what previous studies have failed to examine the issue this project addresses.

Which connects to the next part being the Research Methodology, where the detailed procedure of how the data was collected will be discussed along with what type of methodology used and why it was considered appropriate.

## ***1.9 Rationale for the research***

The reason for distinctively choosing accountants of Ireland and engineers from United States is because this research focuses on the working occupation that uses ‘cognitive skills sets’ compared to ‘mechanical skills sets’ as distinguished by (Ariely, et al., 2005) as occupations which requires complex calculations and creative thinking compared to algorithmic, straight forward tasks which includes a set of rules, respectively and also due to reasons of ease of access to the sample being researched on.

The workforce occupation taken for study is the one which uses cognitive ability as the population of this type in Ireland increased after the Great Recession (Behan , et al., 2013) and also in the United States, where engineers were coined to be emerging as a major occupation group (Bureau of Labour Statistics, 2013) whereas an occupation in accountancy was agreed to be second top growing industry in Ireland as per economists, career sites and

most of job search engines (Kilmartin, 2012). It is therefore important to study and understand what motivates this occupation group, to find out if it is either intrinsic or extrinsic, as Ed Deci (2000) found out that when it comes to cognitive skill occupations, extrinsic rewards don't work and often do more harm than good, agreeing to the same argument (Ariely, et al., 2005) found out that large extrinsic rewards lead to poorer performance. Whereas (Herzberg, 1987) found out his 'Hygiene' factors were crucial for job satisfaction and Maslow (1943) agreeing to Herzberg pointed out that not only 'Hygiene' factors were essential but also 'Motivational' factors, were important only when done in progression. This study will help shed some light on what job satisfaction factors (intrinsic or extrinsic) when applied to this occupation set will result into their maximum output and what working conditions (Hygiene and Motivational) according to Maslow and Herzberg are essential to result in increased motivated staff, higher productivity and satisfied employees.

The next part of the research will be the Findings section after the data was collected. It will follow the main research hypotheses and explain the analysis with appropriate statistical calculations carried onto SPSS and the findings will consist of all the values of different variables as a result of the calculation and sub-objectives consisting of technical statistical jargon. It will be a detailed description of what this research was set out to find and what the achieved results were.

The Findings section will follow the Discussions section in which the non-technical jargon will be explained in plain simple terms for anyone who reads to understand the findings and the results of the analysis. It will depict when applied analysis to the research questions what were the outcomes and the answers to the hypothesis. The thesis will conclude with the Conclusion and Limitations part where the conclusion will be shared and the limitations will be disclosed along with reference to further research will be provided.

## **2. Literature Review**

### ***2.1 Introduction***

“Morale in the organisation does not mean that people get along together; the test is performance, not conformance” as Peter Drucker (1967) quotes it, silently pointing out the important element pertaining to work motivation. Since primitive times man has put considerable amount of time and effort to understand his set priorities on why he gets up in the morning and moves through the day; working for his livelihood, whereas oftentimes contradicting the idea of set priorities of their employers, because if this were any less true, organisations would have minimum to none, problems of attracting and retaining talent. What truly matters is what one does with its human resource between the two stages of attraction and retention.

To find out ‘How human resource was managed before?’ one has to go back in time, right where managing human resource first started, where one may find that during the start of the industrial revolution, Frederick Taylor (1991), a management theorist of the labour process, using motion studies wanted to ‘attain the highest maximum output per \$ spent on wages’. He called it ‘Soldiering’ and was successful at attaining his goal but it had a downside to his practices, soon finding out that his employees could not soldier, but thinking it was irrelevant he did not pay heed. Further studies showed that the answer to his problems was that his employees were not satisfied with his practices and were less motivated to perform the tasks.

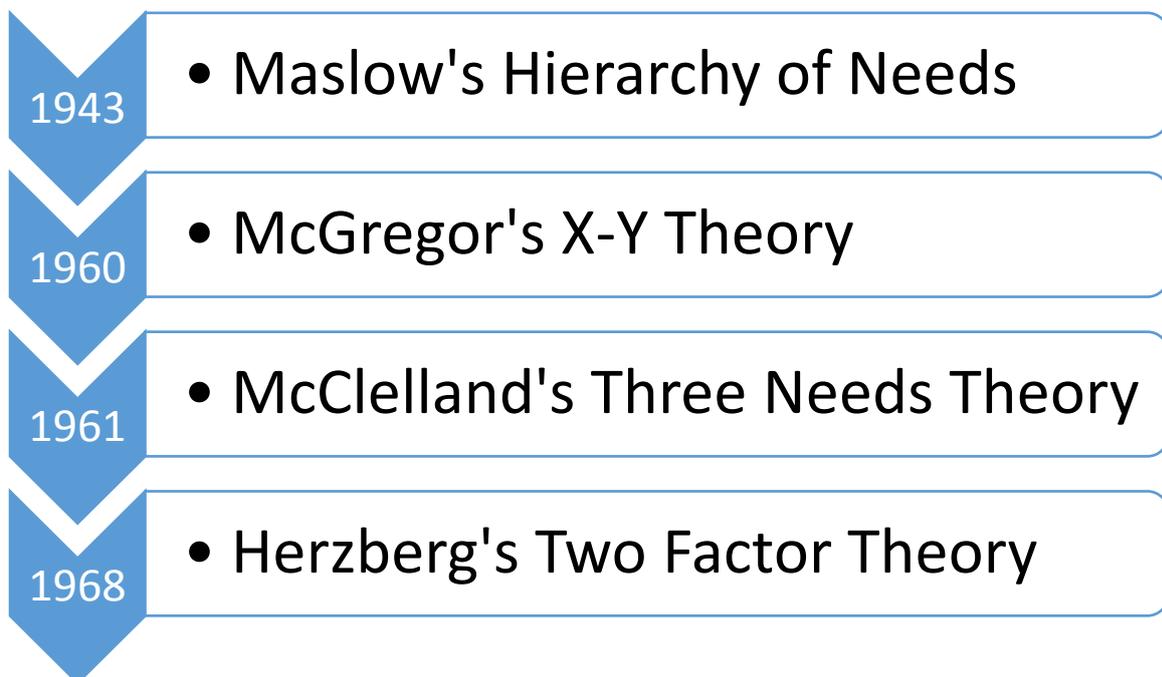
Following Taylor came along Henry Fayol (1949) who devised the principles of ‘General and Industrial Management’ where he jot down 14 principles of labour administration for all administrators to follow for effective working of the employees, earning him the title ‘Father

of Scientific Management.’ He was of the belief that both the employee and the administrator can be the cause of employee satisfaction or dissatisfaction based on their actions.

Now that it’s clear on how human resource was previously managed, let’s move on to the real motive of this research; how best motivate employees to keep their efficiency at optimum levels and steady. The following section includes key academic theories on motivation to shed some light on the current knowledge of the areas through series of chapters. A Timeline is designed to see the progress of key theories and how the concept of employee motivation evolved, affected other areas of human resource management and where it stands in present times.

## ***2.2 Theories of Motivation***

### **Timeline:**



## ***2.3 Maslow's Hierarchy of Needs Theory:***

### **Theory**

Abraham Maslow is considered to be the father of Human Psychology who designed a pyramid to understand the different levels of human motivation. These hierarchical levels from bottom to top were Physiological needs, Security, Social, Esteem and Self-actualisation (Maslow, 1969) which corresponded different stages of human motivation. The most important statement by Maslow linking to this research is that 'his hierarchical arrangement didn't actually imply focusing more on the higher needs because they were better, rather the lower needs because without the lower level needs satisfied, the higher level needs didn't appear' (Maslow, 1943), meaning that motivation and job satisfaction levels of employees are not static and does not come down to one of the hierarchical needs being either the lowermost (Physiological need) or the topmost (Self Actualisation need) but rather a combination of certain needs depicting certain factors. Through his theory of needs, Maslow essentially set up a stage with the needs portraying the pillars to human motivation and satisfaction and with this revolutionised and gave direction to theorists like Herzberg, McClelland, McGregor and many others to better understanding human needs and how best to satisfy those needs.

### **Criticisms**

The critique to Maslow's theory by Heath (2010) is that if one really wants to motivate people, they have to get them out of Maslow's basement of lower level needs, because his assumptions state that employees feel recognised for their contribution when rewarded large sums, meaning that they fulfil Maslow's Self Esteem and Self Actualisation needs, keeping lower level needs constant. Les Landes (2006) agrees to this by pointing out that employees are not just mechanical bodies, they come equipped with brains and organisations who fail to

take advantage of both, by egocentric view of management are doomed to fail. As literature suggests authors would agree on stressing on intrinsic motivation by applying similar approaches to analyse the research problem the resulting critic gave rise to an autonomy factor, as now that the employees feel recognised for their contribution, they are more intrinsically motivated at the workplace, as stated by Lea et.al (1987) “The basic tenet of Maslow’s theory is that humans strive to actualize, or realize, their individual potentials, that is, to grow and enhance the self.” Autonomy relates to the degree of independence or individualism that one either has or doesn’t at work. To better put this in a practical sense one can say these are they ‘Motivation’ factors (according to Herzberg) including ‘achievement, advancement, and work itself’, and when measured, quantify job satisfaction pertaining to this autonomy factor.

### **Linkage to this research**

Langfred & Moye (2004) quote in their study, “The performance benefits of task autonomy may be realized by increased motivation (motivational mechanisms), by capitalization of information asymmetries (informational mechanisms), or by better alignment with task and organizational structures (structural mechanisms)”. Whereas Bogsnes (2008) says that when the factor of autonomy is actually put into the equation in real work environments, productivity, worker engagement, and worker satisfaction all goes up with turnover going down, but he says this with regards to the ‘cognitive skill’ sector. Bogsnes (2008) theory of ‘Beyond Budgeting’ has been heavily questioned and critiqued as Rickards (2006) points out it has deep structural change, difficult for organisations to implement, de Wall (2005) points out it’s relatively short lifetime and Pilkington & Crowther (2007) identifies its lack of fully developed tools. The arguments are persuasive and reflect major areas of disagreement which results in requirement of further investigation at understanding the factor of autonomy in the accountancy and engineering sector which this study is aimed to look at. “Here’s the problem

with Maslow's Hierarchy" quotes Pamela Rutledge in a Forbes article titled 'What Maslow Missed' by Steve Denning (2012), "Needs are not Hierarchical, as none of these needs starting with basic survival on up are possible without social connection and collaboration" pointing out that Social needs at workplace like 'relationship with peers and supervisors' are more important than the other needs by Maslow as she adds stating "Without collaboration there is no survival" because as societies become more complex we tend to rely more on each other as connection is a prerequisite for survival, both emotionally and physically.

## ***2.4 Mc Gregor X-Y Theory:***

### **Theory**

Douglas McGregor (1960) wrote one of the most influential piece of literature describing an organisation's 'Human Resource' being one of its greatest asset as opposed to its liquid financial resources or its holdings or possessions, called 'The Human Side of Enterprise' where he coined his noteworthy management postulate, 'Theory X-Y'. This theory starts out with the assumption taking into account human behaviour, that there are basically two types of workers, type X and type Y. The general assumptions covering theory X employees are that they are lazy and unambitious, have no sense of creativity, need to be controlled and coerced to complete objectives, which adds up to having 'Physiological and Security' needs as formulated by Maslow as their basis of motivation at the workplace, as they lack the drive and ambition to do it themselves. On the contrary theory Y employees are ambitious, enjoy their work, are creative, possess levels of responsibility, and are self-directed and by looking at all these factors one can draw an inference that these type of employees are motivated by Maslow's 'Social, Self-esteem, and Self-actualisation' needs. Agreeing to this detail, Biron Figman (1973) accords saying if the number of theory Y exceeds the number of theory X employees then, "effective performance becomes a function of utilizing appropriate methods

of control and organisation to allow for an integration of the goals of the worker and the goals of the organisation” quoting in his PhD thesis. Whereas other organisational theorist like Argyris (1962) and Likert (1961) believe that this X-Y conflict of human behaviour in the organisation can only be solved by a change in the organisation’s attitude towards its employees by infiltrating potential for employee growth and achievement.

### **Criticisms**

Although the theory stands out in differentiating between employee types and how effectively they are motivated, this theory also received massive criticisms, one that stands out was by Dunnette (1962) where he stated that the theory is relatively data free, ignoring individual differences whereas Kuriloff (1963); and Miller and Wolfe (1968) disagree saying that an organisational environment consisting theory Y climate is a satisfying one in the long run. McGregor also added admitting that theory Y does not necessarily solve problems of the organisation but leads to motivation of personnel, satisfaction of the highest needs and loyalty to the organisation, meaning that theory Y is associated with Herzberg’s ‘Motivation’ factors which specify that theory Y employees can only be motivated when their ‘social, self-esteem and self-actualisation’ needs are fulfilled. Whereas on the other hand to motivate theory X employees, Herzberg’s ‘Hygiene’ factors must be taken into account and have to be met in order to keep the levels of job satisfaction of this set of employees up and consistent.

### **Linkage to this research**

One of the most important facet of this theory which leads people thinking about Theory X employees as ‘bad’ is that they have to be directed and controlled using the carrot and stick approach as they are motivated solely by extrinsic rewards rather than intrinsic ones. Whereas on the other side Theory Y employees are ‘good’ as they are motivated by intrinsic factors as they are self-directed, ambitious and have varying levels of responsibility meaning that they

see their work as a learning opportunity and engage in it mainly because it motivates them and brings them a sense of satisfaction. If we place this analogy juxtapose Maslow's theory we find that model X correlates with lower psychological needs, limiting desired productivity whereas model Y correlates to higher level self-actualisation, self-esteem needs. As both X and Y type of employees are inevitably present in the organisation it can be inferred that separate levels of Maslow's must be used in order to motivate the either of the two type of employees by fulfilling higher or lower level needs. On the contrary McGregor also denies the fact of a good-bad distinction, as he is of the view that as per the employee type one can use appropriate methods of keeping employees (in our case the sample of accountants and engineers) satisfied and motivated; either if they are type X then they could be provided better 'Hygiene' conditions, and if they are categorised as type Y then providing them with 'Motivational' factors as coined by Herzberg may lead to enhanced levels of motivation and satisfaction at the workplace.

## ***2.5 McClelland's Three Needs Theory:***

### **Theory**

McClelland's theory of needs proposes that when a need is strong in a person, its effects is to motivate the person to use behaviour which leads to satisfaction of that need. He says that these needs are learned through the organisational environment and because of that behaviour which is rewarded tends to reoccur at higher frequency (Gibson, et al., 1979). The theory connects and takes adaptations from 'Self-actualisation' and 'Self-esteem' part of Maslow's hierarchy of needs and are identical to Herzberg's 'Motivation' factors as McClelland's needs theory is bifurcated into three parts, namely the need for 'achievement', 'affiliation', and 'power' (McClelland & Johnson, 1984). According to the theory achievers or the high performers prefer jobs that offer three things namely, 'personal responsibility', 'feedback',

and ‘moderated risks’ and these elements are the building blocks for motivation at the workplace (Robbins, 2005). McClelland's concept of achievement motivation relates to Herzberg's two-factor theory in a way that employees with high achievement motivation tend to be interested in the ‘Motivation’ factors, either intrinsic or extrinsic, on the other hand employees with low achievement motivation are more concerned about the organisational culture and the workplace environment, acting as Herzberg’s ‘Hygiene’ factors (Hersey & Blanchard, 1982).

### **Linkage to this research**

Summarising the theory, McClelland exposes that employees have different needs and out of the three mentioned in the theory, employees feel their importance differently, when their needs that they bring in the organisation are fulfilled, they feel motivated and satisfied resulting in increased commitment to the organisation. By applying this theory to the sample of accountants and engineers one can delineate how best to motivate and keep them satisfied based on their needs defined in McClelland’s theory, as for the ‘affiliation needs’ employees because they value social interaction, Maslow’s social needs must be of prime importance to them, hence enhanced levels of Herzberg’s Motivation factors of ‘relationship with peers and supervisors’ will boost their morale and improve their job satisfaction at the workplace. Similarly ‘achievement needs’ employees value ‘recognition’ and ‘responsibility’ which when measured according to Herzberg’s Motivation factors of ‘growth, and the ‘work itself’ can increase their levels of autonomy, improving their intrinsic motivation levels and satisfying them at their jobs.

By using McClelland’s theory of needs Harrell and Stahl (1984) examined how motivational needs affected job satisfaction among randomly picked sample of 89 Certified Public Accountants in public accounting firms where significant positive connections were found

between job satisfaction, the need for achievement, and the need for power among junior-level accountants in the audit/tax areas. The theory matched perfectly for hours devoted to work against firm's work-performance ratings with employees. On the other hand no connection was found among junior level accountants among management consultant area, proving a theoretical link to this research.

## ***2.6 Herzberg's Two-Factor Theory:***

### **Theory**

Frederick Herzberg, an American psychologist taking adaptations from Maslow's theory of Hierarchy of Needs modified it and came up with his famous Motivation-Hygiene Theory of Job Enrichment. He studied total of 203 accountants and engineers using semi-structured interviews. In his theory findings he bifurcates two factors; Hygiene factors (basic pay, job security, friends in the workplace) and Motivational factors (recognition, achievement, advancement, and challenging work) which he says were the key ingredients for an employee's satisfaction at the workplace (Herzberg, 1987). Hygiene factors cannot motivate but prevents discontent in the job (Herzberg, 1959), but it cannot also be validated that only the motivational factors will provide job satisfaction and the hygiene factors will prevent dissatisfaction because he used 'critical incident technique' by interviews where data depends on the respondent's memory which is one of the most critiqued question of the theory's validity (Pardee, 1990). Whereas the current research uses scaled structured questionnaires to analyse the two factor theory and is aimed at providing validated and reliable results. To understand 'the impact of demographical factors on job satisfaction' Schroder (2008) using two factor theory studied 835 university employees and found that the levels of intrinsic and extrinsic job satisfaction were not the same for different occupational groups which contradicted Herzberg's theory but Herzberg did indicate that intrinsic factors will not lead to

job satisfaction if the extrinsic factors present in the work setting are deficient (Caston & Braoto, 1985). Lubienska and Wozniak (2012) in their research involving sample of software engineers specify that hygiene factors helped create a more productive environment in which software specialists could work without interruption facilitating increased motivation levels when compared to motivation factors. These arguments are more persuasive and give rise to the hypothesis, ‘if hygiene factors are more important than motivational factors’.

### **Criticisms**

Ewen et al (1968) using Job Descriptive Index replicated Herzberg’s study on a random sample of jobs only to find that it could not provide irrefutable support to the theory, suggesting that the variables of job satisfaction be called ‘intrinsic’ and ‘extrinsic’ instead, where Graen (1966) had formidably agreed to the same argument in his own previous studies. On the contrary Smerek and Peterson (2007) uncovered that the only factor acting in conformity with Herzberg’s theory was ‘work itself’ and later on was cohesive to a research conducted by Dunaway (2009) pointing out that the same factor was the only one which had an impact on job satisfaction. Although Dunaway (2009) conducted his research on nurses and Smerek and Peterson (2007) on large public research universities, it still puts Herzberg’s theory into question and after careful examination of literature until their time Wall and Stephenson (2007) concluded that his data is an outcome of “people’s tendency to give socially reliable answers in their responses, resulting in factors that impact dissatisfaction as being attributed to external factors instead of internal factors” (Stello, 2013) resulting untenable as a description of job attitudes.

### **Linkage to this research**

Many of the up to date researches have been studied and their achievements and limitations have been taken into account postulating the purpose of the current study. A report based on

job satisfaction built upon Herzberg's theory by Manisera et al (2005) using Categorical Principal Component Analysis (CATPCA) on a sample of 2066 workers from 220 organisations in the Italian social service sector revealed that after extracting two different scales of 'Motivation' and 'Hygiene' from their analysis result, although being interdependent, reflected different aspects of job satisfaction, in turn agreeing to Herzberg's classification being a two-dimensional concept. This proves that a study conducted short while ago using a scaled questionnaire to re-examine Herzberg's two factor theory resulted in making a more quantitatively reliable distinction of Motivation and Hygiene factors with Cronbach's alpha values being 0.81 and 0.77 respectively. This study is limited and does not tell us which of the two factors predict better levels of job satisfaction, becoming the basis on which the current research problem is established upon. Which brings us to the next study by Malik (2011) being a descriptive-correlational one which examined factors affecting the job satisfaction levels on 120 faculty members of the Baluchistan University using the quantitative method of questionnaire survey unveiled that the most responsible factor for their motivation was "work itself", whereas on the other hand the least motivating factor was the "working conditions". If this analogy is placed juxtapose to the questionnaire being used in our current study it depicts that 'Motivation' factors can be associated closely to job satisfaction, as "work itself" is a 'Motivation' factor, and the absence of 'Hygiene' factors can be affiliated with job dissatisfaction as "working conditions" is a 'Hygiene' factor which solves our problem of identification of variables or attributes necessary for job satisfaction at the workplace, which the previous study by Manisera et al (2005) lacked. Also complimenting the findings of Malik (2011) a research pursuing the applicability of the Two Factor theory on Private Sector University teachers by Islam and Ali (2013) found out on the contrary that they expressed their highest job satisfaction with Hygiene variable of "relation with co-workers" and for the Motivation factors the variables of "achievement" and "work

itself". This indicates that the two factors of 'work itself' and 'relationship with supervisor/co-workers' are the ones that should be taken into account when searching for job satisfaction, but how are 'university teachers' and 'accountants, and engineers' related and why should one see their similarity when determining their levels of job satisfaction? The answer to this is that as per the extensive literature review research conducted by the research, there were no relevant studies conducted on this sample group of accountants and engineers and the ones that have, are already included in the literature, even when they are of aboriginal times, in addition to this the study is being conducted on the occupation which is required to use its 'cognitive skills' on a daily basis as compared to the 'mechanical skills'. This detailed distinction in occupations is explained in the section of Dan Ariely which is the next part of the literature review. Two of the most influential studies were the ones by Teck-Hong and Waheed (2011) and Hyun (2009). Teck-Hong (2011) applied Herzberg's theory on a sample of sales personnel in Malaysia only to find out that Hygiene factors dominated Motivation factors where the 'working conditions' was the most significant factor for prediction of job satisfaction. As their research hit a bulls eye in making distinction between Motivation and Hygiene factors where the variables of their study matched perfectly to the current research, the questionnaire used by them was adopted in the current research for measuring Herzberg's Motivation and Hygiene factors. The second study by Hyun (2009) was able to portray the resemblance of Intrinsic job satisfaction and Extrinsic job satisfaction to Motivation and Hygiene factors respectively with profound precision, by using the 'Minnesota Satisfaction Questionnaire' which founded a basis for measuring the factors of Motivation-Hygiene that closely predicted Intrinsic-Extrinsic job satisfaction respectively, forming the basis of scales for the current research.

### ***Researches of Recent Origin***

## ***2.7 Dan Ariely***

### ***Theory linking to the current research***

When it comes to cognitive skill tasks, extrinsic rewards do more harm than good, by limiting creativity and narrowing the focus on rewards alone (Deci, et al., 1999), this research and investigation focuses more on cognitive job occupation because, the labour market has been increasingly polarised, with most of the growing employment in the high-income cognitive jobs, and with the falling prices of tasks carried out by computers, non-cognitive skill work done by humans is more or less redundant, with this pattern being unique not only in Europe and the U.S but also most developing countries (Goos, M, et al., 2009). The research investigation carried out by Ariely et. Al (2005) funded by the Federal reserve bank of Boston, used two set of population samples in their methodology, first were 24 undergraduate student subjects from MIT and the second consisted of 87 residents of rural population of India and tried to examine the two postulates ‘high performance-contingent incentives improved one’s performance’ and ‘high performance-contingent incentives could decrease performance based on cognitive skills’, by analysing the linear regression in which the dependant variable was the participant’s reward as a fraction of total possible reward for the task and the independent variable were the incentive levels, their analysis revealed high significance interaction between incentive level and task (Ariely, et al., 2005). The relationship between the incentive level and task suggests that there are two different set of tasks formulating two different sets of occupation skills namely ‘mechanical skill occupation’ and ‘cognitive skill occupation’ (Ariely, et al., 2005). The research involved three levels of rewards to the participants for the cognitive tasks that they performed in which the best performer got the highest reward and so on. This situation is similar to most organisations where the top performers are rewarded and the low performers are neglected. The results of the study concluded that monetary extrinsic rewards don’t work effectively in cognitive skill

set occupations and do more bad than good. On the other hand Gneezy and Rustichini (2000) pointed out using laboratory and field experiments that employees who were not paid at all exerted greater effort than those who were paid in small amounts (Frey and Jegen, 2001; Heyman and Ariely, 2004). A phenomenon called as ‘choking under pressure’ by Baumeister (1984) also depicted research of documented situations in which increased motivation and effort resulting in decrease in performance. McGraw and McCullers (1979) provided support for the argument by showing that the introduction of monetary rewards for tasks that involved problem solving had detrimental effects on performance (Ariely, et al., 2005). The major area of disagreement on the above literature would be Camerer and Hogarth (1999) when their 74 studies reported an inconclusive view demonstrating their study having no effect on performance, but a decrease in variance because people put more effort into the tasks, when the level of pay was varied in different types of tasks, on which their research study was based. These arguments also point towards a further need for a similar investigative study measuring employee’s perspectives on intrinsic and extrinsic job satisfaction, which the current study’s research question is based on.

## ***2.8 Ed Deci***

### ***Theory linking to the current research***

Classic theories on work motivation suggests the effects of intrinsic and extrinsic motivation to be additive, either implicitly or explicitly, example Porter & Lawler (1968) and Vroom (1964) but according to Deci (1971, 1972, 1975) there is an interaction between the two sources. Deci (1971) research paper specified that some activities provide their own inherent rewards, hence motivation would not be dependent on external rewards, refereeing to these as intrinsically motivated activities and raising the question of how extrinsic rewards would affect people’s intrinsic motivation (Deci, et al., 1999). Whereas Eisenberger and Cameron

(1996) point out to the fact saying that reward contingent after reaching specific criteria of performance increased perceived self-determination. On the other hand intrinsic motivation increased when performance-contingent rewards were provided to employees which made them care and prioritise about the job being done well (Harackiewicz & Sansone, 1991). This contradicts to deCharms (1968) as he disagrees by calling extrinsic motivation being characterised by impoverished and pale form of motivation and completely contrasts with intrinsic motivation. Intrinsic motivation still remains an important construct, reflecting the natural human propensity to learn and assimilate. However, extrinsic motivation is argued to vary considerably in its relative autonomy and this can either reflect external control or true self-regulation (Ryan & Deci, 2000). These arguments demonstrate the need 'to determine from employee's perspective if intrinsic job satisfaction are more important than extrinsic job satisfaction' and identifies it as one of the prominent research question to be explored and studied by this research study as meta-analysis of 123 experiments conducted by (Deci, et al., 1999) point out that tangible rewards tend to have negative effect on intrinsic motivation as it's variation can depend of the type of reward (Deci, 1975), the type of contingency (Ryan, et al., 1983), the type of participants (Deci, et al., 1975) and the type of interpersonal climate within which the rewards are administered according to Deci et. Al (1981) and Ryan et. Al (1983).

## ***2.9 Conclusion***

To sum up the literature review, we conclude saying that the process of Motivation and Job satisfaction according to the literature is much like building your own car in your personal garage.

Maslow formed the 'chassis' to understand human motivation and satisfaction and confined them into needs. His five needs as per him had to be fulfilled in progression steps, whereas

new information on the theory suggested that satisfaction of higher level needs is important as it forms the basis of intrinsic job satisfaction, which gives rise to an autonomy factor at the workplace, moreover further tests of the theory updating the literature suggests that Maslow's needs are not hierarchical and adds social needs to be more important.

McGregor forms the 'engine' by making clear noticeable distinctions of employees at the workplace with his X-Y theory where he specifies what motivates the two and how they are inevitably present in the organisation, mentioning and relating the motivation techniques of X and Y with his correlation to Maslow he disintegrates the use of his five needs and uses them in specifying satisfaction needs by meeting and providing motivation and job satisfaction at the workplace.

McClelland combines the higher level needs of Maslow and the assumption that the number of Y employees exceed the number of X employees at the workplace and with this combination formulates his three needs that enhance the motivation levels of Y employees which acts as a 'turbo charger', which results into a boost of torque here being the result of this amalgamation, 'achievement' and 'affiliation' and shows how to provide that using intrinsic job satisfaction by supplying better relationship with peers and supervisors, and considerable levels of recognition and responsibility to the employees.

Herzberg's theory is like an 'on-board computer' as it has access to all the data. It knows the five needs of Maslow, the types of X-Y employees by McGregor, the types of needs that have to be fulfilled of type Y employees as their numbers are inevitably high in the organisation and how to keep them motivated and satisfied. But what it does instead is it checks for an overall diagnostic to the problem of job satisfaction, rather than making distinction among employee types, he assumes all to be same and then goes back to analyse the five needs by Maslow, and by taking adaptations from his theory, he bifurcates the needs

into two parts, namely 'Motivation' factors and 'Hygiene' factors. It is then examined on different sample by researches to check its validity and what they find is pretty interesting, (a) there is a clear distinction and the theory does show two distinct variables of 'Motivation' and 'Hygiene', (b) the needs can be fulfilled by meeting the criteria of 'Intrinsic' and 'Extrinsic' job satisfaction, and (c) for Intrinsic 'Motivation' the variable of 'work itself' provided the most satisfaction and for Extrinsic 'Hygiene' the variables of 'relationship with supervisors and peers' provided the most job satisfaction as well as absence of working conditions provided the most job dissatisfaction.

## **3. Methodology**

### ***3.1 Introduction to Research Design***

This research study aims to test theories laid down by different behavioural scientists and economists to expand existing knowledge on previous research, making this a Quantitative type of research. It is attempted that most up to date, valid and reliable scales be used to measure the quantities based on the research questions and literature review. The sample has been selected using Convenience Sampling method which reflects feasibility and easy access to people. As there has been evidence of studies and meta-analysis similar to this research, rather than looking at their research achievements, the literature has been designed to present and is focused more on their short falls and need for further research. This study is focused on testing hygiene-motivation factors, and intrinsic-extrinsic job satisfaction on two samples; engineers and accounts. The reasons for choosing such a sample is mainly because as reflected by literature, the population of this group is increasing and is one of the fastest growing in the two geographic areas that this research is aiming to study (Behan , et al., 2013), moreover though this is a well-defined topic, my search on eboscohost proved to show that very limited research been conducted specifically in the area of accountants and engineers making this study use scales and literature from primitive origin as no up to data was found.

### ***3.2 Research Questions***

Academic Area- Employee Motivation, Job Satisfaction.

Hypothesis one- To test if Herzberg's Motivation factors predict levels of intrinsic job satisfaction on sample of Irish Accountants and American Engineers.

Hypothesis two- To examine if Herzberg's Hygiene factors predict levels of extrinsic job satisfaction on American Engineers and Irish Accountants.

### ***3.3 Research Sub-objectives***

Sub Objective 1: To determine from the employee's perspective if motivational factors are more important than hygiene factors.

Sub Objective 2: To investigate if work autonomy leads to better levels of motivation of employees in the workplace.

### ***3.4 Research Framework***

The framework of the research can be structured and laid down using Saunders et al (2009) which when applied in the making of this research, specifies that the research philosophy used is a Positivist one, as according to oncology where the philosophical context is the study of which exists in general, for which in the current study are the 'different job satisfaction factors and how they are related to each other'. Positivism defines science as a single reality where the objective of the research study is to fill knowledge gap where hypothesis is tested using quantitative methodology by way of collecting data using questionnaires and analysing them using statistical tools. As the purpose of this study is an amalgamation of 'filling knowledge gap' and 'problem solving' a more quantifiable positivist approach was taken into consideration. By Deduction approach expressing the hypotheses into measurable variables

and examining specific outcomes, this approach is used in explaining the relationship between variables in this case ‘Motivation factors to Intrinsic Job satisfaction’ and ‘Hygiene Factors to Extrinsic Job Satisfaction’, using Cronbach’s Alpha which is a statistical tool to measure the reliability and validity coefficient, the quantitative methodology tends to be highly structured and methodical as well as precise in depicting results, hence being sought out for the current study.

### ***3.5 Participants and Procedures***

The sample for this research was selected from the population of Irish Accountants and American Engineers by way of Convenience sampling, the data was collected using scaled questionnaire. The sample was reached by posting the survey on social media websites especially LinkedIn as it is one of the largest online network of professionals and also known acquaintances in the field of accountancy in Ireland as well as engineering professionals in the United States were requested to participate in the research. Responses were received from 32 participants (21 American Engineers and 11 Irish Accountants) over a period of two months and instruction were provided for their willingness to participate or withdraw from the participation at will. Over the period of the first month when the responses had almost stopped and the data collection was in abeyance, the questionnaires had to be modified and the part where they had to put their names was removed due to identity constraints. American engineers straight away denied participation because of the fear that their name would come up on any internet surveying company as the questionnaires was formulated in SurveyMonkey which is an American based company. The questionnaire was also circulated by email using ‘SurveyMonkey’ where it contained detailed instructions about the purpose of the research, the time taken to fill the questionnaire, confidentiality, and ethical

considerations were explained. The ethical consideration explained while circulating the questionnaire via electronic form were as follows

- Guarantee of privacy of data for the ones agreeing to participate.
- Their willingness to participate or abstain from participating, but once the questionnaire was agreed to be filled the participant had to answer all the questions and the design was in such a way that not a single question could be skipped without answering, else they could not proceed to the next question.
- The information they choose to provide would be help with the utmost level of Anonymity and confidentiality and to prove this fact, the ‘Name’ part was held as being ‘optional’. If they participants felt, they could fill their names else skip this only question in the entire questionnaire.
- It was specified that only group results would be reported and no individuals will be identified.
- It was mentioned that upon completion of this research the data will be secured within the School of Business, National College of Ireland.

### ***3.6 Design and Measures***

The format of the questionnaire started with an introductory part of the questionnaire which asked participants about their gender, level of schooling completed, and their current occupation (the first three being list questions), their job title, and the number of years they had been in their line of work (succeeding two being open ended questions). The part following the introduction consisted of three distinct questions each measuring Herzberg’s Motivation factors, Hygiene factors, and Intrinsic/Extrinsic job satisfaction respectively.

#### ***3.6.1 Study one***

The part answering the main research questions in this research is a threefold as mentioned earlier, part one and two measure Herzberg's Motivation and Hygiene factors respectively and the scales used to measure them were developed by Ewen et al. (1966), Graen (1966), Sergiovanni (1966), House and Wigdor (1967), Lindsay et al (1967), Maidani (1991), and Pizam and Ellis (1999) used in Teck-Hong & Waheed (2011) research paper where they tested Two-Factor theory on the Malaysian retail sector where the responses were recorded on a 5 point Likert scale rating from '1' for strongly disagree and '5' for strongly agree. As their Cronbach alpha value was between 0.7-0.9 proving their reliability and also its variables matched perfectly with the values being measured through this research it made perfect sense to take adaptations from the scaled questionnaire developed by them. The combined Cronbach's Alpha was calculated to be 0.891 for Motivation and Hygiene factors, using SPSS.

The first fold part measures the Motivation factors according to Herzberg's Two-Factor theory. This part consists of five sub scales measuring achievement (consisting 3 questions), advancement (2 questions), work itself (3 questions), recognition (3 questions), and growth (3 questions) and as suggested earlier, responses were recorded on a five point Likert scale from '1' for strongly disagree and '5' for strongly agree. High scores indicated that the sample strongly agreed to the factors of job satisfaction that they received at their workplaces were closely related to their job satisfaction pertaining to Herzberg's Motivation factors, similarly low scores indicated their strong disagreement of Motivation factors leading to job satisfaction for them at their workplace.

The Cronbach's Alpha was calculated to be 0.864 for Motivation factors, using SPSS.

An example of some questions used in the scale to measure Motivation factors are as follows

*Advancement: 'I will choose career advancement rather than monetary incentives'*

*Work Itself: 'My job is thrilling and I have a lot of variety in tasks that I do'*

*Recognition: 'I feel appreciated when I achieve or complete a task'*

The second fold part measures the Hygiene factors from Herzberg's theory where this part of the questionnaire consists of six sub scales measuring company policy (3 questions), relationship with peers (3 questions), work security (3 questions), relationship with supervisor (3 questions), money (2 questions), and working conditions (2 questions) and their responses were also recorded on a five point Likert rating scale from '1' for strongly disagree and '5' for strongly agree. Higher scores indicated that the sample in the research strongly agreed that Herzberg's Hygiene factors resulted in their job satisfaction at the place of their work, as on the other hand lower scores suggested that they denied any relation of job satisfaction they received when provided by Hygiene factors to them by their employer at the workplace.

The Cronbach's Alpha was calculated to be 0.891 for Hygiene factors, using SPSS.

An example of some questions used in the scale to measure Hygiene factors are as follows

*Company Policy: 'The attitude of the administration is very accommodative in my company'*

*Relationship with Supervisor: 'I feel my performance has improved because of the support from my supervisor'*

*Working Conditions: 'I feel satisfied because of the comfort I am provided at work'*

### **3.6.2 Study two**

This part of the questionnaire measures Intrinsic/Extrinsic job satisfaction and the scales used to measure them were developed by Weiss, Dawis, England, and Lofquist (1967) called the 'Minnesota Satisfaction Questionnaire' having two versions out of which relevant parts from the 'long form' versions as compared to 'short form' version were adapted to identify and

measure job satisfaction items pertaining to the specific elements recognised in the research, as the scale has 20 items, only the items that closely matched the factors being studied in this research were included and the responses were recorded on a 5 point Likert scale rating from '1' for not satisfied and '5' for extremely satisfied and the rest were excluded which enhanced the quality of data being collected as well as weeding out items that were not remotely close to the elements being studied. The plus point gained here by this was this was easier to grasp and quick to be filled, not taking more than 2 minutes to understand and make logical opinions. According to its creators MSQ provided precise information on aspects of a job that the individual finds rewarding than do more general measures of job satisfaction, also the reliability and validity of the long form version is more than the short form making it ideal for use for this type of research.

The intrinsic part the questionnaire measures Intrinsic job satisfaction consisting of seven elements measuring a single question each concerning intrinsic job satisfaction namely ability utilisation, achievement, creativity, independence, moral values, responsibility, and recognition where the responses were recorded on a five point Likert rating scale from '1' for 'not satisfied' and '5' for 'extremely satisfied'. Higher scores indicated that the research sample was extremely satisfied with the Herzberg's Motivation factor regarding to items measuring their intrinsic job satisfaction, on the other hand lower scores indicated that the sample experienced no satisfaction at their workplace when it came to same factors that resulted to their job satisfaction.

An example of some questions used in the scale to measure Intrinsic job satisfaction factors are as follows

*Ability Utilisation: 'The chance to do something that makes use of my abilities'*

*Achievement: 'The feeling of accomplishment that I get from the job'*

*Responsibility: 'The freedom to use my own judgement'*

*Recognition: 'The praise I get for doing a good job'*

The extrinsic part of the questionnaire measures extrinsic job satisfaction consisting of eight elements measuring a single question each regarding extrinsic satisfaction namely policies and procedures, authority, co-workers, technical supervision, human relations supervision, working conditions, variety, and advancement where the responses were recorded on a five point Likert rating scale from '1' being 'not satisfied' and '5' for 'extremely satisfied'. Here it indicated that higher the score, more was the satisfaction achieved by employees with Herzberg's Hygiene factors, on the contrary, lower the scores, lower was the satisfaction level, in fact the sample would experience no satisfaction at the workplace with respect to the level of extrinsic job satisfaction.

An example of some questions used in the scale to measure Extrinsic job satisfaction factors are as follows

*Policies and Procedures: 'The way organisation policies are put into practice'*

*Authority: 'The chance to tell other people what to do'*

*Co-workers: 'The way my co-workers get along with each other'*

*Working Conditions: 'The physical environment where I work'*

### **3.7 Design and Analysis**

SPSS Statistical tool was used to analyse the data collected. Descriptive statistics were used to compute the Mean (M), the Standard Deviation (SD) of the population sample and to analyse the different scaled questionnaire results. Bivariate correlations were first applied to calculate the relationship between Intrinsic job satisfaction and predictor variables of Motivation factors, and between Extrinsic job satisfaction and its predictor variables being

Hygiene factors. Linear Regression was then executed to estimate the value of the dependant variable of Intrinsic and Extrinsic factors based on the independent variable also taking into account the total amount of variance explained by the predictor factors and delineate the closest variables which were significant predictors of these dependant variables. Analyses was performed to compute the Motivation factors, and Hygiene factors that were closely related to or were significant predictors of Intrinsic and Extrinsic job satisfaction factors respectively.

## ***4. Findings***

The aim of this chapter is to amalgamate the results and conclude the expected findings and the achieved results. As suggested in the Methodology section, a scaled questionnaire was designed using SurveyMonkey and was deployed on the sample of American Engineers and Irish Accountants by way of Convenience sampling via email. Out of the total 32 (N) responses received 21 were Engineers and 11 were Accountants.

This research was set out to ‘Test the relationship between Herzberg’s Motivation-Hygiene factors on Intrinsic-Extrinsic Job Satisfaction on a sample of Irish Accountants and American Engineers’

If we once again quickly go through the two main hypotheses of this research study which are

1. To test if Herzberg’s Motivation factors predict levels of intrinsic job satisfaction on sample of Irish Accountants and American Engineers.
2. To examine if Herzberg’s Hygiene factors predict levels of extrinsic job satisfaction on American Engineers and Irish Accountants.

The questionnaire was divided into three question parts, the first question measured the Motivation factors of Herzberg's theory, the second question measured the Hygiene factor of the theory and the third question measured the level of Intrinsic and Extrinsic Job Satisfaction of the sample. The results of the two sample have been amalgamated and not described separately as Accountants and Engineers. It will be structured with the Descriptive Statistics defining the Mean (M) and Standard Deviations (SD) followed by Correlations and then Regression tables. Reliability tests were performed and the value of Cronbach's Alpha was calculated to be 0.864 and 0.891 for both Motivation and Hygiene factors respectively.

**Table 1**

*Descriptive Statistics for Herzberg's Motivation and Hygiene factors and Intrinsic and Extrinsic Job Satisfaction*

<i>Variables</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
<i>Achievement</i>	32	12.098	1.8379	1.199	.241
<i>Advancement</i>	32	7.281	1.373		
<i>Work Itself</i>	32	11.906	1.820	3.268	.003
<i>Recognition</i>	32	11.125	2.075	2.209	.036
<i>Growth</i>	32	12.406	1.682	1.563	.130
<i>Company Policy</i>	32	11.562	1.644	-.217	.830
<i>Relationship with Peers</i>	32	12.406	1.662	.492	.627
<i>Work Security</i>	32	12.093	1.422	1.837	.078
<i>Relationship with Supervisors</i>	32	10.312	2.740	2.079	.048
<i>Money</i>	32	6.500	1.703	.338	.738
<i>Working Conditions</i>	32	7.437	1.605	1.716	.099

<i>Intrinsic Job Satisfaction</i>	32	23.500	5.775
<i>Extrinsic Job Satisfaction</i>	32	25.656	5.379

The first part looks at the Correlations, which represent how well the two sets of data being measured are related, which in statistical terms mean, showing the linear relationship of the two sets of data being measured. Table 2 represents the correlation matrix between Motivation factors and intrinsic job satisfaction and according to the Pearson's Correlation it showed, how the dependant variable being Intrinsic JS is related to the predictor variables being measured against it, which should be closer to 1 to be strongly correlated and as it goes away it becomes weakly correlated. The values of achievement (.752), work itself (.747), recognition (.638), and growth (.646) are the variables closely correlated to Intrinsic Job Satisfaction.

**Table 2**

*Correlations between DV (Intrinsic Job Satisfaction) and continuous Variables of Herzberg's Motivation factors*

	1	2	3	4	5	6
<i>Intrinsic JS</i>	1					
<i>Achievement</i>	.752**	1				
<i>Advancement</i>	.275	.296	1			
<i>Work Itself</i>	.747**	.601**	.217	1		
<i>Recognition</i>	.638**	.699**	.316	.353*	1	
<i>Growth</i>	.646**	.561**	.424*	.590**	.345	1

*\*\*Correlation is significant at the 0.01 level (2 tailed). \*Correlation is significant at the 0.05 level (2 tailed)*

After seeing the Pearson Correlation values between the dependant variable Extrinsic JS and its predictor variables of Hygiene factors with the same condition as before having strong correlation if the values were closer to 1 and as they moved further the significance weakened, looking at Table 3 we can deduce that all the predictor variables have a linear correlation with the dependant variable with company policy (.642), relationship with peers (.467), work security (.401), relationship with supervisors (.662), money (.452), and working conditions (.724) having notable correlation values.

**Table 3**

*Correlations between DV (Extrinsic Job Satisfaction) and continuous Variables of Herzberg's Hygiene factors*

	1	2	3	4	5	6	7
<i>Extrinsic JS</i>	1						
<i>Company Policy</i>	.642**	1					
<i>Relationship with Peers</i>	.467**	.657**	1				
<i>Work Security</i>	.401*	.308	.406*	1			
<i>Relationship with Supervisors</i>	.662**	.589**	.290	.116	1		
<i>Money</i>	.452**	.668**	.416*	.153	.366*	1	
<i>Working Conditions</i>	.724**	.820**	.499**	.236	.686**	.590**	1

*\*\*Correlation is significant at the 0.01 level (2 tailed). \*Correlation is significant at the 0.05 level (2 tailed).*

The second part looks at what the p value has to show, which when defined, is the statistical significance where if this value is high, then it will not be statistically significant and lowest level significance will reject the null hypothesis. The p values in Table 1 show that the value should be less than 0.05 to be statistically correlated to the dependant variable.

When comparing the independent variables of Herzberg’s Motivation factors to Intrinsic Job Satisfaction by looking at Table 1 we infer that ‘work itself’ is at (0.03) and ‘growth’ is at (0.036) which portrays the confidence in estimating values being correct and having the closest statistical significance among the rest of the variables predicting Motivation factors. This means that the only Motivation factors being statistically significant in correlating with Intrinsic Job Satisfaction are ‘work itself’ and ‘growth’.

To discover the statistical significance of Hygiene factors to the predicted Extrinsic Job Satisfaction, also by looking at Table 1, we find that ‘work security’ (0.78), ‘relationship with supervisor’ (0.48), and ‘working conditions’ (0.99) are the only representing factors of the predictor variables to be significant statistically towards its dependant variable of Herzberg’s Hygiene factors.

**Table 4**

*Multiple Regression Model of Motivation factors predicting Intrinsic Job Satisfaction*

	R <sup>2</sup>	AdjR <sup>2</sup>	β	B	SE	CI 95% (B)
Model						
Intrinsic JS	.764	.729				
Achievement			.192	.602	.502	-.42 / 1.63
Work Itself			.416	1.319	.404	.49 / 2.14
Recognition			.291	.809	.366	.05 / 1.56

Growth	.191	.657	.421	-.20 / 1.52
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After running a Regression analysis the predictor variables of Motivation factors of ‘growth’, ‘recognition’, ‘work itself’, and ‘achievement’ approximately explained 73% of variance on the Dependant variable, Intrinsic job satisfaction. Whereas the ANOVA indicated the model was significant as a whole with  $F(4, 27) = 21.86, p < .0005$ . Moving further after checking the Standardized coefficients and Sig we could conclude that the best predictor of Intrinsic job satisfaction was ‘work itself’ ( $\beta = .416$ ) followed by ‘recognition’ ( $\beta = .291$ ), ‘achievement’ ( $\beta = .192$ ) and finally ‘growth’ ( $\beta = .191$ ).

**Table 5**

*Multiple Regression Model Hygiene Factors predicting Extrinsic Job Satisfaction*

	R <sup>2</sup>	AdjR <sup>2</sup>	$\beta$	B	SE	CI 95% (B)
Model						
Extrinsic JS	.644	.559				
Company Policy			-.057	-.186	.857	-1.95 / 1.58
Relationship with Peers			.082	.266	.540	-.84 / 1.37
Work Security			.241	.912	.496	-.11 / 1.93
Relationship			.347	.682	.328	.00 / 1.35

with SV				
Money	.055	.174	.513	-.88 / 1.23

With the same analysis the Hygiene variables predicting Extrinsic job satisfaction were ‘working conditions’, ‘work security’, ‘relationship with peers’, ‘money’, ‘relationship with supervisors’, and ‘company policy’ explained an approximate variance of 56% with the model being significant with  $F(6, 25) = 7.53, p < .0005$  and after checking the Standardized coefficients and Sig came to a conclusion that the best predictors of Extrinsic job satisfaction were working conditions ( $\beta = .402$ ), relationship with supervisors ( $\beta = .347$ ), work security ( $\beta = .241$ ), relationship with peers ( $\beta = .082$ ), money ( $\beta = .055$ ), and finally company policy ( $\beta = -.055$ ).

## 5. Discussions

The main objective of this research study was to test the effectiveness of Hygiene-Motivation factors on Irish Accountants and American Engineers resulting in Intrinsic-Extrinsic job satisfaction, with the rationale was to study a sample on which very few researches have been conducted and so to make the study more profound, it broke the geographical boundaries and took into consideration two occupation sets only similar in a way that they fell under the same category of ‘cognitive skill’ group. It was felt important to touch these occupations as the number of people who fall in this occupation set are significantly high understanding what motivates them is beneficial for both the organisations that they work in as well as the individuals.

The result of the first hypothesis which tested the effect on Intrinsic job satisfaction by predictor variables of Motivation factors examined 73% variance which meant that the model used to study this hypothesis predicted that 73% of predictor variables were successful in predicting intrinsic job satisfaction and the factors that closely showed that they are responsible for the sample's intrinsic job satisfaction were from top to bottom 'work itself' being the strongest predictor for the sample of accountants and engineers followed by 'recognition', 'achievement' and finally 'growth'. This means that the work itself being the 'content' of the job was significant in intrinsically motivating Irish accountants and American Engineers. This result is similar to the finding mentioned by Malik (2011) in his study where the factor of 'work itself' accounted for 63% of variance in overall job satisfaction as well as Islam and Ali (2013) had the slightly similar findings which showed 'achievement' to be the predictor along with 'work itself'.

The result of the second hypothesis examined a 56% variance for the model used to examine if Herzberg's Hygiene factors predict levels of extrinsic job satisfaction on American Engineers and Irish Accountants which literally meant that around 56% of the predictor variables used to examine relationship between Extrinsic job satisfaction and Hygiene factors showed close relations responsible for their prediction. Where the variable which stood out being the strongest predictor of extrinsic job satisfaction for accountants and engineers was 'working conditions' followed by 'relationship with supervisor', 'work security', 'relationship with peers', 'money' and finally 'company policy'. Out of them all the Hygiene factor that was responsible for the strongest prediction of extrinsic job satisfaction was 'working conditions' but if we look at the p values we see that 'relationship with supervisor' has a greater statistical significance in predicting extrinsic job satisfaction than 'working conditions'. These findings are similar to Malik (2011) where his findings concluded 'working conditions' to be the variable most strongly correlated with extrinsic job

satisfaction, whereas Islam and Ali (2013) found ‘relationship with co-workers’ to be the most significant in predicting extrinsic job satisfaction. The research study of Teck-Hong (2011) from which the scales for the current study have been adopted showed ‘working conditions’ to be the most strong predictor of extrinsic job satisfaction which is identical to the current study.

To test the sub-objectives of this research with the analysis we find that for the first sub objective being, if Motivation factor is important or Hygiene it is clear from the ‘Findings’ section that Hygiene factors were given more importance than Motivation factors as all the predictor variables were significant in predicting but on the other hand the variance suggests otherwise with Motivation model suggesting a variance of 73% whereas the Hygiene model was on only 56%.

The test of second sub-objective being if the factor of ‘autonomy’ predicted levels of intrinsic job satisfaction we compared the values associated with autonomy which were ‘achievement’, ‘advancement’, and ‘work itself’ to which out of the three only two predicted both statistically and significantly in addition to this work itself was the most strongest factor predicting levels of intrinsic job satisfaction.

## **6. Conclusion and Limitations**

Given the findings which seem consistent with the literature review even given the difference of sample occupations it is clear that the distinctions made by Dan Ariely et al (2006) between sample occupations using cognitive skills and mechanical skills have a clear relation as tested in this research. This research was set out to find what Motivation factors and Hygiene factors are necessary to keep the distinct sample of American Engineers and Irish Accountants satisfied, motivated, and retained. This research was successful to make distinctions between Herzberg's Motivation and Hygiene factors as well as Intrinsic and Extrinsic Job satisfaction. It was able to deduce what factors of Motivation when applied to the sample of accountants and engineers results in Intrinsic motivation as well as the Hygiene

factors responsible for Extrinsic job satisfaction and also stood in line with similar results when compared to the somewhat similar research ideas on different samples within the same skill set, here being cognitive skill occupation even when this research had a sample size constraint its models worked perfectly with good variance levels.

The most prominent limitation which also serves as an application to further research is the scarcity of empirical studies available on the chosen sample. Although there have been several studies conducted none of them are of recent origins and none of them specifically on either of the sample of accountants and engineers. If a search for all the articles be conducted on ebosco host the result will be just a handful, in fact after Herzberg who conducted the research on both accountants and engineers and came up with his Two Factor theory, it has never been attempted on the same sample neither on large scale or small scale. So it is recommended that further research be carried on a large scale using quantitative methodology providing quantifiable reliable and valid data. It is also recommended that the study be replicated with a more funnelled approach regarding the sample as this research took ‘accountants’ and ‘engineers’ at face value, and a study on a more specific detailed occupations inside engineering and accountancy be considered. A sample consisting of either ‘cognitive skill sets’ or ‘mechanical skill set’ can also be pursued for further research.

## 7. Appendices

### Appendix 1 (Measure of Hygiene and Motivational Factors)

<u>Factors</u>	<u>Questions</u>	<u>Ratings</u>
Motivators		
Achievement	1. I am proud to work in this company because it recognizes my achievements.	1 2 3 4 5
	2. I feel satisfied with my job because it gives me feeling of accomplishment.	1 2 3 4 5
	3. I feel I have contributed towards my company in a	1 2 3 4 5

	positive manner.	
Advancement	1. I will choose career advancement rather than monetary incentives.	1 2 3 4 5
	2. My job allows me to learn new skills for career advancement.	1 2 3 4 5
Work Itself	1. My work is thrilling and I have a lot of variety in tasks that I do.	1 2 3 4 5
	2. I am empowered enough to do my job.	1 2 3 4 5
	3. My job is challenging and exciting.	1 2 3 4 5
Recognition	1. I feel appreciated when I achieve or complete a task.	1 2 3 4 5
	2. My manager always thanks me for a job well done.	1 2 3 4 5
	3. I receive adequate recognition for doing my job well.	1 2 3 4 5
Growth	1. I am proud to work in my company because I feel I have grown as a person.	1 2 3 4 5
	2. My job allows me to grow and develop as a person.	1 2 3 4 5
	3. My job allows me to improve my experience, skills and performance.	1 2 3 4 5
Hygiene		
Company Policy	1. The attitude of the administration is very accommodative in my company.	1 2 3 4 5
	2. I am proud to work for this company because the company policy is favourable for its workers.	1 2 3 4 5
	3. I completely understand the mission of my company.	1 2 3 4 5
Relationship	1. It is easy to get along with my colleagues.	1 2 3 4 5

with Peers	2. My colleagues are helpful and friendly.	1 2 3 4 5
	3. Colleagues are important to me.	1 2 3 4 5
Work Security	1. I believe safe working at my workplace.	1 2 3 4 5
	2. I believe my job is secure.	1 2 3 4 5
	3. My workplace is located in an area where I feel comfortable.	1 2 3 4 5
Relationship with Supervisor	1. I feel my performance has improved because of the support from my supervisor.	1 2 3 4 5
	2. I feel satisfied at work because of my relationship with my supervisor.	1 2 3 4 5
	3. My supervisors are strong and trustworthy leaders.	1 2 3 4 5
Money	1. I am encouraged to work harder because of my salary.	1 2 3 4 5 1 2 3 4 5
	2. I believe my salary is fair.	
Working Conditions	1. I feel satisfied because of the comfort I am provided at work.	1 2 3 4 5
	2. I am proud to work for my company because of the pleasant working conditions.	1 2 3 4 5

Appendix 2 (Measure for Intrinsic and Extrinsic Motivation)

<u>Factors</u>	<u>Questions</u>	<u>Ratings</u>
Intrinsic		

Ability utilization	The chance to do something that makes use of my abilities	1 2 3 4 5
Achievement	The feeling of accomplishment that I get from the job	1 2 3 4 5
Creativity	The chance to try my own methods of doing the job	1 2 3 4 5
Independence	The chance to work alone on the job	1 2 3 4 5
Moral values	Being able to do things that don't go against my conscience	1 2 3 4 5
Responsibility	The freedom to use my own judgment	1 2 3 4 5
Recognition	The praise I get for doing a good job	1 2 3 4 5
<b>Extrinsic</b>		
Policies and procedures	The way organization policies are put into practice	1 2 3 4 5
Authority	The chance to tell other people what to do	1 2 3 4 5
Co-workers	The way my co-workers get along with each other	1 2 3 4 5
Supervision (technical)	The competence of my supervisor in making decisions	1 2 3 4 5
Supervision (human)	The way my boss handles his people	1 2 3 4 5

relations)		
Working conditions	The physical environment where I work	1 2 3 4 5
Variety	The chance to do different things from time to time	1 2 3 4 5
Advancement	The chances to advance on this job	1 2 3 4 5

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