COST CONTROL SYSTEMS IN THE CONSTRUCTION INDUSTRY;
A Critical Assessment into the Inclusion of ‘Tracking Amortization of Advanced Payment’ as an Indicator for Project Performance in Ireland and The United Kingdom.

Dissertation Submitted in Part Fulfilment of the Requirements for the Degree of

MASTER OF BUSINESS ADMINISTRATION

at

Dublin Business School

by

Dickson Obimah
Student Number: 10357753

Paul Taaffe
Research Supervisor

MBA General August 2018
DECLARATION

I, Dickson Obimah, declare that this research is my original work and that it has never been presented to any institution or university for the award of Degree or Diploma. In addition, I have referenced correctly all literature and sources used in this work and this work is fully compliant with the Dublin Business School’s academic honesty policy.

Signed: Dickson Obimah  
Date: 20th August 2018
ACKNOWLEDGEMENT

“I returned, and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favour to men of skill; but time and chance happened to them all” (Ecclesiastes 9:11).

I am grateful to God for the gift of life and the grace He bestowed on me to discover my purpose.

Special thanks to my supervisor (Paul Taaffe) who has been of immense support all through my project management tools and techniques course and dissertation at DBS.

God bless the Souls of my loving Parents Late Mr & Mrs Obimah, who taught me everything that is guiding me through life. May perpetual light continue to shine on you, Daddy and Mummy.

To my Wife Mrs Onyi Obimah, thank you for the love and support always. The only thing better than being the best Father to our kids is being your Husband and loving you more every day. To my Kids, Liam and Eoin Dickson Obimah, I hope my academic journey inspires you to do even better than I did. You are the light of my life and you both inspire me to always put my best foot forward.

To my Sisters and their Families:

Lynn and Chekube Odibeli,
Lynda and BN Okpuzor,
Helen and Francis Erhabor,
Lilian and Muyiwa Adenirola,
Loveth and Kunle Adewuyi,
Diana and Leslie Okonkwo.

Eternally grateful that I have you all in my corner, praying for me and most importantly, living the legacy of our late Parents. Love you all.
ABSTRACT

The project-oriented nature of the construction industry makes it unique and different from other business environments due to its “multi-faceted”, “complicated” nature and the level of “uncertainty” it faces, an oversight in this view has only led to a “higher-than-average” failure rate compared to other businesses. Some of these failures were related to cost control and financial issues and therefore the need to sort for more ways to improve the cost control/financial systems/models in the construction industry and led to the critical assessment into the inclusion of ‘tracking amortization of advanced payment’ as an indicator for project performance’. A qualitative method of research was carried out to answer the research question i.e. can the tracking amortization of advanced payment’ be used to determine project performance status? through conducting semi-structured interviews to gain insight and perceptions of real-life scenarios by interviewing experienced and practicing individuals in the Irish and UK construction industry. The analysis of the interview of five experienced and practicing professionals was prepared and found out that there is a relativeness between the amortization of advance payments and the performance status of the project and there lies the possibilities of tracking project performance through tracking amortization of advance payments but there were concerns of a complicated process in the midst of changing variables i.e. time, cost, scope, client requirements etc. However, for the realisation of positive results from this concept it must be integrated into the firms control system and also support from the construction industry at large in terms of policies, measures of control etc. and the further development in terms of deeper research.

Keywords: cost control systems and models, amortization, advance payment, project tracking.
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1. CHAPTER 1: INTRODUCTION

The project-oriented nature of the construction industry makes it unique and different from other business environments due to its “multi-faceted”, “complicated” nature and the level of “uncertainty” it faces, an oversight in this view has only lead to a “higher-than-average” failure rate compared to other businesses (Halpin & Senior, 2009 p.1) (Peterson, 2009 p.4) (Ling & Ang, 2013) (Aljohani, et al., 2017).

These failures were noticed to have cut across all players in the industry from small to large, old to new and domestic to foreign.

According to Varghese and Manacere (2012), a research by the Surety Information Office revealed and identified six broad warning signs to indicate that a construction company is in trouble; of which four of these six related failures are directly related to financial management of the company. They are:

1. Ineffective financial management systems,
2. Bank line of credit constantly borrowed to the limits,
3. Poor estimating,
4. Poor project management,
5. Absence of comprehensive business plan,

Of which four of these six related failures are directly related to financial managing of a company. They (Varghese and Manacere, 2012), also highlighted five similar causes of failures in construction as mentioned by Grant Thornton’s report and they are:

- Slow Collection,
- Low profit margin,
- Insufficient capital/excessive debt,
- Misuse of banks’ line of credit and
- Poor estimation.

The financial management in a construction company can be seen as the responsibility of the owner, the general manager, the project managers, the estimators and superintendents This will be
most useful for a project manager as it gives him a better grip of the project and also give him an edge in improving the profitability of the project (Peterson, 2009).

In this research, the exploration of the inclusion of ‘tracking amortization of advanced payment’ as an indicator for project progress performance.

Amortisation is an accounting/financial terminology and can be defined as the process of paying back a loan periodically over a stipulated time but in this research the amortization is not the conventional type but rather the amortization of advanced payment (seen and treated as a no interest loan) provided by the employer to the contractor and collected back as the works progresses. (Oprea, 2010).

1.1 RESEARCH QUESTION

The main question to be addressed in this research addresses the primary aim of the research and this is it:

- Can the tracking of ‘amortization of advanced payment’ be related to construction project performance?
- Can the tracking of ‘amortization of advanced payment’ be used to determine project performance status?

If ‘amortization of advanced payment’ can be planned and agreed in the project contract, this plan can also be represented in a form of schedule, then it may, or could be tracked or monitored as the plan can be tied to the schedule. Also, at any point the progress of that payment can be tied to the progress of the project directly.

The research questions would try to address the relativeness or the relationship of tracking of ‘amortization of advanced payment’ and ‘project performance’.
1.2 AIMS AND OBJECTIVES OF RESEARCH

The aim of this research is to critically assess the possibilities of ‘tracking amortization of advance payment’ for the purpose of determining of construction project performance and this will be achieved by the pursuit of the following objectives:

▪ To evaluate the process of advance payment and corresponding amortization plan as an integral part of financial management in the construction Industry.
▪ To evaluate the amortization plan and its relativeness to project performance.
▪ To evaluate the perception of the amortization of advanced payment for tracking by industry experts in the construction industry.

Also, as part of the aims of this research is the outcome which would be beneficial to the construction Industry by developing an alternative and perhaps faster way of determining project performance through financial management. It will also serve as a pioneer in the area of research to be developed further as it is a new area of research.

1.3 RESEARCH BENEFICIARIES

The beneficiaries of this research would be of the following groups and categories below:

1. One part of the beneficiaries would be the practicing professional in the area of the surveying practice and most especially the project management and quantity surveying in the construction industry, it is the duty of a project manager to see to the affairs of a project of which cost/ budget/ profit making are part of this, also it is the responsibility of the quantity surveyor to keep track of projects by conducting periodic checks at set milestones and benchmarks to see the performance of the project.

2. Another group of beneficiaries would be those in the academic world as this research would contribute to the body of knowledge. This group would involve, Lecturers Students at different levels, Researchers at different levels of degree etc.
3. This research would also be beneficial to professional bodies in the field of construction as it relates more to practice, the professional bodies such as the Society of Surveyors Ireland (SCSI), The Royal Institute of Chartered Surveyors (RICS), The Construction Industry Federation (CIF), The Chartered Institute of Building (CIOB) and a few others, these professional bodies are always open to new and innovative ways to carry out their business and improve industry standards.

4. Finally, this research is focusses on a new area that has not really been explored, this research would form as base or background study for future development of the concept directly or in relating areas.

1.4 **OUTLINE METHODOLOGY**

The methodology that will be adopted is the qualitative approach which will be used to address the principal aim of this research i.e. the critical assessment the possibilities of ‘tracking amortization of advance payment’ for the purpose of determining of construction project performance.

This will be achieved by gaining insight and perceptions of real-life scenarios by interviewing practicing individuals in the construction industry. The level of involvement can be expected to be high as it is centred within the experience of the participants (Creswell, 2003). And finally, after analysing, conclusions will be made with the theories and perceptions. The details of the methodology are as highlighted below.

The design was developed in accordance to the process of the research onions cutting through the different stages as listed below:

- Research Philosophy - Interpretivism
- Research Approach to theory Development - Induction
- Methodological Choice - Mono Qualitative Method
- Strategy - Narrative Inquiry
- Time Horizon – Cross-Sectional
Techniques & Procedures - Data Collection and Analysis

1.4.1 PHILOSOPHY

The philosophy chosen for this research is the Interpretative research philosophy because according to Saunders, et al. (2016, p. 140, 141) it “creates new, richer understanding and interpretation of social worlds and context”. Further more, the concept of the inclusion of amortisation of advanced payment for tracking purposes would be a fairly new concept in the construction industry and so therefore it would be best to carry out the research with an interpretivist viewpoint.

1.4.2 APPROACH

The approach for this research is in line with the abductive (a mix of inductive and abductive) approach within a naturalistic environment that would (may) lead to the development of an additional perspective of a theory (an inclusion to the existing theoretical perspective), that would be tested in the course of the research (Saunders, Lewis & Thornhill, 2016). This approach moves back and forth from theory and data unlike the deductive that moves from theory to data and the inductive from data to theory.

1.4.3 METHODOLOGICAL CHOICE

The methodological choice most appropriate for this research is the qualitative research and by face to face interviews as the aim is to be able to view and explore perceptions of experienced individuals in the field of study. This would allow the capture of more and relevant details from the interviewees.

1.4.4 STRATEGY

The strategy intended for this research is the “narrative research” (narrative inquiry through interview) because according to Coffey & Atkinson (1996) in Saunders, Lewis & Thornhill (2016...
pp.198), “an account of an experience told in a sequenced way, indicating a flow of related events that, taken together, are significant for the narrator and would convey meaning to the researcher”.

1.4.5 DATA COLLECTION & ANALYSIS

The method of data analysis that would be used for this research is the ‘Thematic Analysis’, where an index of central themes and sub themes would be represented in a matrix spreadsheet with display of cases and variables (Bryman & Bell, 2015 pp. 578-604). It (thematic analysis) provides “one way thinking” of how to manage themes and data, through a framework for analysis of qualitative data (Bryman & Bell, 2015 pp. 559). Recommendations for searching for themes according to Ryan & Bernard (2003) in Bryman & Bell (2015) are as follows:

- Repetitions
- Indigenous typologies or categories
- Metaphors and analogies
- Transitions
- Similarities and differences
- Linguistic connectors
- Missing data
- Theory related material

Similarly five steps of analysing data as recommended by Greenfield (2002) was also considered and form part of the knowledge used for the analysis, they are: collecting the data, reduction of the data, display of the data, draw conclusions and verification of findings.

1.5 RESEARCH LIMITATIONS

The limitations of this research include:

1. In the analysis of the primary research, there wouldn’t much referral to the secondary research data because it is a whole new area of thought that hasn’t been practiced or explored. The concept was able to be related some worth away from the construction
industry and into the accounting and banking sector, the only relationship to the construction industry was in the aspect of loans.

2. Due to the fact that it’s a whole new areas as described above, and not much of secondary research available; this posed another form of limitation but because the researcher was aware of this, he dwelled more on the relating circumstances, focused on the problems leading to the research and the justification for an investigation into the issue and the need for other forms of cost control measures in the construction industry.

3. These limitations were also mitigated with the researcher’s motivation to investigate into the alarming financial issue present in the construction industry and the fact that this research would form a basis for further investigations; this is actually one of the aims of this research.

1.6 THESIS ORGANISATION

This thesis like any standard thesis has been organised and in according to the format as recommended by Dublin Business School, it has been designed to follow a sequence of bringing the reader up to date and through the past by critically reviewing the information and data available in the area and background of the research. This was also done with the with methods with objectives that pursue primarily the aims of the research and in constant reference to the research question. Finally, the findings from the survey were discussed and presented a conclusion and summary.

Chapter 1 is an overview of the whole research work and dissertation, with a brief introduction into the research, the research question, the aims and objectives of the research, the outline methodology and the thesis structure.

Chapter 2 is the literature review cantered around the background knowledge of the research, area, the justification for the research, the issues the research is outlining, and the proposal for a further investigation into other means of tracking, monitoring and controlling cost in the construction industry.
Chapter 3 is a detailed description and explanation of how the research was designed and the approaches adopted, methodological choice, philosophy applied and how it hopes to achieve the desired objectives and how the data obtained would be analysed.

Chapter 4 is the analysis of the data received and the findings from the analysis.

Chapter 5 is the discussion which is a summary of the finding explained critically.

Chapter 6 is comprised of the findings and conclusion of the work followed by the recommendation for future development and suggestions for future research.

Chapter 7 is the self-reflection of the researcher through the MBA course and through the dissertation, reflecting on his learning style and personality, his development through the course, the challenges he faced and his application of his learning for future purposes.
2. CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION: THE CONSTRUCTION INDUSTRY AND ITS PROJECT FAILURES

According to Peterson (2009) and his accounts of the United states, there was a decline in the number of construction companies doing business between 2001 and 2002 in the tune of almost 11,000 but considered to be more since the newly started companies were included (hence not reflecting the actual number of companies that went out of business).

In about the same period, major players in the industry filed for bankruptcy namely the Sato ‘Kogy Compay’ and ‘Nissan Construction’ (two of Japans largest construction companies) as well as Philipp Holzmann AG (the second largest construction company in Germany, founded over 150 years ago). Also 23.6% of construction contractors were out of business within a two-year period between 2004 and 2006.

These failures were noticed to have cut across all players in the industry form small to large, old to new and domestic to foreign. According to Varghese and Manacere (2012), a research by the Surety Information Office revealed and identified six broad warning signs to indicate that a construction company is in problem, and they are listed below as listed earlier in the introduction.

- Ineffective financial management systems,
- Bank line of credit constantly borrowed to the limits,
- Poor estimating,
- Poor project management,
- Absence of comprehensive business plan and
- Communication issues.

Of which four of these six related failures are directly related to financial managing of a company. They (Varghese and Manacere, 2012), also highlighted five similar causes of failures in construction as mentioned by Grant Thornton’s report and they are:

- Slow Collection,
- Low profit margin,
- Insufficient capital/excessive debt,
- Misuse of banks’ line of credit and
- poor estimation.
Aljohani, et al. (2017) outlined that one of the dominant issues in construction project performance all over the world is “cost overrun with a consistently poor record in finishing within budget, they added by given examples of projects with cost overruns as listed below:

- One of the most famous projects to experience cost overrun was the Channel Tunnel project. Construction costs increased from 2600 million to 4650 million pounds sterling (80% higher than the forecasted costs)

Other examples of projects with cost overrun are found in different countries around the world such as:

- The Great Belt link in Denmark (54% overrun),
- The Humber bridge in the UK (175% overrun) and
- The Paris Nord TGV in France (25% overrun).

- In Korea, a study done by Seung Heon, Sungmin showed that the average final cost of seven mega-projects (defined as a project that cost more than $1 billion) at completion increased by 122.4% compared to the original budgeted cost. The average cost overrun for 29 medium sized projects (defined as a project that cost between $50 million and $1 billion) studied within the same time span, is 32.5%.

- Another study conducted by Merrow, McDonnell includes 52 Mega-projects from different regions around the world and their budgets between $0.5 and $30 billion (in 1984 value US dollars). The results show that only 4 projects met their cost goals, while the rest accrued average cost overruns of 88%.

- From the USA, Pickerel’s studies of cost estimation in eight US rail projects identified an average cost overrun of 61%.

- Moreover, a Dutch study containing 78 projects (Road: 37 projects, Rail: 26 projects, Tunnel: 8 projects, Bridge: 7 projects) found an average cost overrun of 16.5%.

- Finally, a study published by Flyvbjerg, Bruzelius concerning the quality of the estimating of cost and demand in 258 transport projects located in twenty countries (constructed between 1927 and 1998) found that nine out of ten projects (86% of the projects) experienced cost overrun, with the overall average overrun being 28%.

From their research (Aljohani, et al., 2017), it was identified that the most frequent causes of cost overruns are:
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- Frequent Design Change during Construction Phase
- Contractors Finance
- Payment Delay
- Lack of Contractors’ Experience
- Poor Cost Estimation
- Poor Tendering Documents
- Poor Material Management

2.2 RECENT STRUGGLING PERFORMANCES OF FIRMS IN THE CONSTRUCTION INDUSTRY

According to a recent report by the construction industry index report in 2017 (The Construction Index, 2017), the margins of UK construction firms fell from 1.7 percent to 1.5 percent, and 34 construction firms fell in turnover, 12 dropped into negative turnovers and 28 of them had their profit decline. Those at the top of the chain were not spared in these outcomes but instead were the most affected.

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<td>2,364.7</td>
<td>7.4</td>
<td>43.9</td>
<td>-148.8</td>
<td>N/A</td>
<td>1.7</td>
<td>N/A</td>
</tr>
<tr>
<td>6</td>
<td>98</td>
<td>Amey UK</td>
<td>2,531.0</td>
<td>2,531.9</td>
<td>-0.0</td>
<td>-43.9</td>
<td>23.6</td>
<td>N/A</td>
<td>N/A</td>
<td>0.9</td>
</tr>
<tr>
<td>7</td>
<td>100</td>
<td>Laing O’Rourke</td>
<td>2,513.2</td>
<td>3,127.4</td>
<td>-19.6</td>
<td>-245.6</td>
<td>12.4</td>
<td>N/A</td>
<td>N/A</td>
<td>0.4</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>Galliford Try</td>
<td>2,494.9</td>
<td>2,348.4</td>
<td>6.2</td>
<td>135.0</td>
<td>114.0</td>
<td>18.4</td>
<td>5.4</td>
<td>4.9</td>
</tr>
<tr>
<td>9</td>
<td>97</td>
<td>Mace</td>
<td>2,126.3</td>
<td>2,231.9</td>
<td>-4.7</td>
<td>-42.9</td>
<td>96.8</td>
<td>-144.3</td>
<td>N/A</td>
<td>4.3</td>
</tr>
<tr>
<td>10</td>
<td>40</td>
<td>Keller</td>
<td>2,041.1</td>
<td>1,811.3</td>
<td>12.7</td>
<td>10.7</td>
<td>36.2</td>
<td>-70.4</td>
<td>0.5</td>
<td>2.0</td>
</tr>
<tr>
<td>11</td>
<td>4</td>
<td>Skarska 1</td>
<td>1,780.0</td>
<td>1,562.4</td>
<td>13.9</td>
<td>73.9</td>
<td>56.3</td>
<td>31.3</td>
<td>4.2</td>
<td>3.6</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>Costain</td>
<td>1,658.0</td>
<td>1,383.5</td>
<td>21.3</td>
<td>35.1</td>
<td>42.1</td>
<td>-16.6</td>
<td>2.1</td>
<td>3.0</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>Wates</td>
<td>1,531.9</td>
<td>1,206.9</td>
<td>26.9</td>
<td>35.5</td>
<td>28.1</td>
<td>26.4</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>14</td>
<td>11</td>
<td>ISG 2</td>
<td>1,329.3</td>
<td>1,648.6</td>
<td>-19.4</td>
<td>4.8</td>
<td>-12.9</td>
<td>N/A</td>
<td>0.4</td>
<td>N/A</td>
</tr>
<tr>
<td>15</td>
<td>65</td>
<td>Wilmott Dixon</td>
<td>1,223.0</td>
<td>1,323.9</td>
<td>-7.6</td>
<td>31.1</td>
<td>4.4</td>
<td>603.5</td>
<td>2.5</td>
<td>0.3</td>
</tr>
<tr>
<td>16</td>
<td>13</td>
<td>Keepmoat</td>
<td>1,133.5</td>
<td>1,094.9</td>
<td>3.5</td>
<td>61.6</td>
<td>54.1</td>
<td>13.9</td>
<td>5.4</td>
<td>4.9</td>
</tr>
<tr>
<td>17</td>
<td>7</td>
<td>BAM Construct</td>
<td>1,072.2</td>
<td>897.5</td>
<td>19.5</td>
<td>26.2</td>
<td>13.0</td>
<td>101.5</td>
<td>2.4</td>
<td>1.4</td>
</tr>
<tr>
<td>18</td>
<td>16</td>
<td>Multiplex</td>
<td>1,035.9</td>
<td>620.0</td>
<td>67.1</td>
<td>16.0</td>
<td>21.9</td>
<td>-26.8</td>
<td>1.5</td>
<td>3.5</td>
</tr>
<tr>
<td>19</td>
<td>32</td>
<td>Mears</td>
<td>940.1</td>
<td>881.1</td>
<td>6.7</td>
<td>29.4</td>
<td>25.9</td>
<td>13.4</td>
<td>3.1</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Table 1 Showing (1-20) of The List of Top 100 Construction Companies (The Construction Index, 2017). Please See Full List: https://www.theconstructionindex.co.uk/market-data/top-100-construction-companies/2017.

The pressure seem to be more for those on the top of the list, The first four on the list starting with Balfour Beatty had just moved from the negative of 199 million to a positive 8 million from...
the previous year and a little margin of 0.1percent, Carillion made over 8 million less in profit between the two years, Kier Group and Interserve massive decline between the two years from 39.5 million to negative (15.4 million) and 79.5 million to negative (76.4 million) respectively with no profit margin (The Construction Index, 2017).

In confirmation of the struggling performance according a report by The Construction Index (2017), the UK construction firm Carillion has collapsed and gone into compulsory liquidation as lenders opted out in providing further financial assistance (The Irish Times, 2018) (The Journal, 2018).

Furthermore to the issues of bad performance in the construction industry comes another, it’s the Manley Construction Company with its operations in Ireland and the UK, it recently got protection from the high court over creditors so as to allow it restructure (The Irish Times, 2017). The firm has been engaging in a couple of loss-making contracts and has left it in its present state of a short fall of 9.7 million euros in total (1.2 million for creditors, directors loans of 3.4 million and 1.4 million debt to state asset agency) (The Irish Times, 2017).

The reason the company (Manley Construction) got the protection from the court is that it was considered to be more beneficial for the creditors to allow the company to continue to trade and
as well utilise its one million euros left in directors loan to assist in this trading (The Irish Times, 2017).

2.3 CAUSES OF FAILURES, TIME AND COST OVERRUNS IN THE IRISH AND UK CONSTRUCTION INDUSTRY

Olawale & Sun (2010) identified that design changes, risk and uncertainties, inaccurate evaluation of project time duration, complexity of works, and non-performance of sub-contractors where the most common and predominant causes for cost and time overruns on a project.

Proverbs et al. (2000) through a review of literature, traced out eighteen issues faced with the construction industry and with insights from UK construction company directors through a quantitative survey and was able to determine the severity of the issues as can be seen in the table below.

<table>
<thead>
<tr>
<th>No.</th>
<th>Problem</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cowboy builders</td>
<td>3.73</td>
<td>1.15</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>Changes of design during construction</td>
<td>3.39</td>
<td>0.93</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>Late payment</td>
<td>3.35</td>
<td>1.30</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>Time constraints and/or accelerated completion</td>
<td>3.27</td>
<td>0.91</td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>Competitive tendering procedures</td>
<td>3.22</td>
<td>1.03</td>
<td>6</td>
</tr>
<tr>
<td>7.</td>
<td>Cost overruns</td>
<td>3.16</td>
<td>0.94</td>
<td>7</td>
</tr>
<tr>
<td>17.</td>
<td>Fragmentation</td>
<td>3.02</td>
<td>0.92</td>
<td>8</td>
</tr>
<tr>
<td>8.</td>
<td>Late completion</td>
<td>2.98</td>
<td>1.05</td>
<td>9</td>
</tr>
<tr>
<td>15.</td>
<td>Wastage</td>
<td>2.94</td>
<td>1.09</td>
<td>10</td>
</tr>
<tr>
<td>5.</td>
<td>Reliance on the traditional procurement route</td>
<td>2.69</td>
<td>1.06</td>
<td>11</td>
</tr>
<tr>
<td>11.</td>
<td>Low productivity</td>
<td>2.69</td>
<td>0.98</td>
<td>12</td>
</tr>
<tr>
<td>4.</td>
<td>Over-specification (i.e. over designed)</td>
<td>2.65</td>
<td>1.07</td>
<td>13</td>
</tr>
<tr>
<td>16.</td>
<td>Inexperienced management and supervision</td>
<td>2.59</td>
<td>0.84</td>
<td>14</td>
</tr>
<tr>
<td>18.</td>
<td>Poor quality / workmanship</td>
<td>2.57</td>
<td>0.76</td>
<td>15</td>
</tr>
<tr>
<td>13.</td>
<td>Excessive overtime</td>
<td>2.08</td>
<td>0.95</td>
<td>16</td>
</tr>
<tr>
<td>12.</td>
<td>Absenteeism of labour</td>
<td>2.08</td>
<td>0.84</td>
<td>17</td>
</tr>
<tr>
<td>14.</td>
<td>Low plant utilisation</td>
<td>2.06</td>
<td>0.72</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 2 Showing Severity of Construction Industry problems as illustrated by Proverbs et al. (2000).

Proverbs et al. (2000) in Construction Industry Problems: The Views of UK Construction Company Directors clearly points out the financial problems in the industry amongst others, issues in construction financial management such as delayed payments (by clients, contractors and sub-contractors) and as well cost overruns and design changes (Proverbs, et al., 2000).
2.4 **EVEN MORE COMPLEXITIES WITHIN THE IRISH AND UK CONSTRUCTION INDUSTRY**

Below are highlights of the challenges and further complexities for the Irish and UK construction industry as detailed in a Survey carried out by the Society of Chartered Surveyors, Ireland (SCSI) in conjunction with PWC (March 2017) and a press release by the UK Construction Media (March 2017).

“The survey took place in February / March 2017 having 248 participants representing all sectors of the construction sector including building surveyors, project managers and quantity surveyors not leaving out 35 property developers across the country” (SCSI/PWC Construction Survey, 2017).

2.4.1 **INCREASE IN CONSTRUCTION COST IN IRELAND**

The increase in the cost of construction in the Irish construction industry according to the survey could be expressed with the laws of supply and demand, meaning that the reason for the higher cost in construction is as a result of the demand for construction services; this is also in line with the SCSI Tender Price index, there hasn’t been any significant increase in the cost of construction materials (SCSI/PWC Construction Survey, 2017).

2.4.2 **BREXIT UNCERTAINTY FOR THE IRISH**

According to the SCSI/PWC Construction survey carried out in 2017, quite a number of issues of uncertainty arises from the belief that Brexit would have a negative impact or unclear of how their businesses would be impacted, uncertain and delayed investment decisions, etc. however, on the positive side, there is also a believe that Brexit would bring a couple of office spaces to Dublin and increase foreign and direct investments (SCSI/PWC Construction Survey, 2017).

According to Niall Cogan (Director PWC Real Estate Practice) the decision is putting pressure on the Irish construction industry in the UK and that VAT may range from 1.7% -7% on imports and the uncertainty EU workers in the UK will only make it difficult to price contracts in the UK (SCSI/PWC Construction Survey, 2017).
2.4.3 \textbf{SKILLS DEFICIT AND INCREASING ACTIVITY IN IRELAND}

With the increase and continues growth in the Irish construction industry, there arises the need for expansion of workforce in the year ahead, but the industry is already experiencing difficulties in recruiting individuals with specific skills and there is also the lack of skilled sub-contractors (SCSI/PWC Construction Survey, 2017) (DKM Economic Consultants, 2013).

2.4.4 \textbf{BREXIT UNCERTAINTY FOR THE UK}

The Brexit poses a lot of uncertainties for the UK construction industry despite not having an impact since the announcement in 2016 but the negotiations may take a toll on the industry as its heavily reliant on overseas skill workers (UK Construction Media, 2017). The implication of this decision to leave, simply means they may not be able to pull skilled workers form the EU and therefore most likely be unable to find a huge percentage of their work force (UK Construction Media, 2017).

Skills are not acquired so fast and may take some time to develop and gain experience, therefore the need for the UK construction industry to think this through in perspective in solving the future issue (UK Construction Media, 2017).

2.4.5 \textbf{AGEING WORKFORCE IN THE UK}

The workforce at present in the UK construction is ageing according to the report by the BSI Group (22% aged 50-60), and only signifies that the continuous trend of such would lead to a skills gap in the future. The report went ahead to suggest that measures should be put in place to encourage the younger generations of the benefits and importance in taking construction as a career (through collaboration with institutions, colleges and universities for the younger generation to gain “hands on” experience) (UK Construction Media, 2017).

2.4.6 \textbf{A WEAKENED POUND}

The UK pound sterling has lost 13% in values since the Brexit vote, this may have a toll for the worse eventually when the UK finally leaves the EU (when the article 50 is triggered and all arrangements concluded officially for the UK to leave the EU) (UK Construction Media, 2017).
The cost implication of this decrease and further potential decrease would be a higher cost of materials being imported into the country for construction works or may pose as an opportunity for the indigenous UK manufacturing companies (UK Construction Media, 2017).

2.4.7 TECHNOLOGICAL TRANSFORMATION FOR THE IRISH AND UK CONSTRUCTION INDUSTRY

Both the Irish and UK governments are putting in place policies to ensure that better quality of work and practice are achieved with the use of digital technology i.e. the emphasis on the use of Digital Construction Handover Documentation (DCHD), Building Information Modelling (BIM), the up and coming ‘internet of things’, and the use of smart technologies embedded within construction components (BIS Group, 2016). Whilst the technological transformation may be great for the industry, these emerging areas may be disruptive for SMEs (BIS Group, 2016).

Another outlined disadvantage that the new technologies are facing is as a result of the ‘complex’ relationships between clients, contractors, suppliers, operators, asset users and the fragmented industry (BIS Group, 2016).

2.5 EXISTING COST MANAGEMENT SYSTEMS/ MODELS IN THE CONSTRUCTION INDUSTRY

Since this dissertation is focused on cost control measures in the construction industry, it would be of importance to have an overview of the existing cost management systems or models that exists. It is also good to note that this research work does not discredit or plan to discredit the existing cost control management systems that already in use however it could lead to the probable use of an additional tool, technique, system or model to add to the what is existing.

Some of the cost control and management systems/ models that exist according to Potts (2008) and Potts & Ankrah (2013) are as noted below, They noted quiet a numbers of issues that needs factored when developing a cost control system, they went ahead to suggest some approaches to to cost control i.e.

- An integrated reporting system.
A separate schedule and cost-control system that puts in focus and identifies troubled areas in the project, so they could take required action in solving the problem by the project team.

The three cost control systems/models as highlighted by Potts (2008, pp. 199-208) and Potts & Ankrah (2013, pp. 234-244) are as follows:

1. Cost-Value Reconciliation (Used by Building Contractors)
2. Contract Variance – Unit Costing (Used by Civil Engineering Contractors)
3. Earned Value Analysis (US Approach/Used on Major Projects)

They would be described in more details below:

2.5.1 COST-VALUE RECONCILIATION (CVR)

This is the kind of cost system used by the building contractors, it tries to show a realistic and accurate of the financial position at any current stage by projecting the profitability of the company (Potts & Ankrah, 2013). This also fulfills one of the legal requirement i.e it forms the basis for statutory accounts and also just as mentioned earlier above it provides information or identifies troubled areas in the project and provides the opportunity to take required action in solving the problem by the project team in preventing them from recurring on the project (Potts & Ankrah, 2013).

This is carried out (cost valuation reconciliation on a monthly basis as agreed for interim valuation) by the quantity surveyor of the contractor but also require inputs from the rest of the project team to have an integrated outcome (Potts & Ankrah, 2013). It is also good to note that these reconciliations may be an estimated account and not an exact picture, it is according to the quantity surveyors knowledge and judgement to the available information (Potts & Ankrah, 2013).

2.5.2 CONTRACT VARIANCE – UNIT COSTING

This type of cost control model is mainly used by civil and engineering contractors especially where there are ‘small number of high value components. It covers a range of works and are accounted (recorded) for separately (independently) and this presents unit cost for e.g. each package like concrete works, steel works, ground works, driving piles etc. which can be compared with those
in the tender (Potts, 2008) (Potts & Ankrah, 2013, pp. 239-241). The contract variance – unit costing form of cost control report just like the cost-value reconciliation is also carried out on a monthly basis following the interim valuation agreed with the employer/client/ owner (Potts, 2008) (Potts & Ankrah, 2013).

The comparison is made between the cost of the work done and the value of the work itself and the difference is what turns out to be the variance. This helps to capture trends (either to the negative or positive) for better decision making and forecasts the ‘profit and loss’ position on the project (Potts & Ankrah, 2013, pp. 239-241).

<table>
<thead>
<tr>
<th>Mighty Build Construction Company</th>
<th>Monthly cost report</th>
<th>Programme as tender: 100 weeks</th>
<th>Programme as tender: 75 weeks; Actual: 65 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost code</td>
<td>Description of work</td>
<td>Unit</td>
<td>BoLQ</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>010</td>
<td>General items</td>
<td>Item</td>
<td>Fixed</td>
</tr>
<tr>
<td>020</td>
<td>Excavate over site and remove</td>
<td>M²</td>
<td>450,000</td>
</tr>
<tr>
<td>030</td>
<td>Concrete piling to Marina walls</td>
<td>Nr.</td>
<td>250</td>
</tr>
<tr>
<td>040</td>
<td>Marina excavation and remove</td>
<td>M²</td>
<td>700,000</td>
</tr>
<tr>
<td>050</td>
<td>Lock construction cofferdam</td>
<td>M²</td>
<td>5,000</td>
</tr>
<tr>
<td>060</td>
<td>Lock construction gates</td>
<td>Nr.</td>
<td>2</td>
</tr>
<tr>
<td>070</td>
<td>Piling to pontoons</td>
<td>Nr.</td>
<td>400</td>
</tr>
<tr>
<td>080</td>
<td>Puddle clay bed</td>
<td>M²</td>
<td>100,000</td>
</tr>
<tr>
<td>090</td>
<td>Flood marina</td>
<td>M²</td>
<td>600,000</td>
</tr>
<tr>
<td>100</td>
<td>Install pontoons</td>
<td>M</td>
<td>2,000</td>
</tr>
<tr>
<td>110</td>
<td>Finishing work</td>
<td>Item</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3 Showing Sample of Monthly Cost Report Based on Variance Unit Costing Method (Potts & Ankrah, 2013, p. 241).
2.5.3 **EARNED VALUE ANALYSIS**

This is a US approach and used for mainly large construction projects, as defined Howes (2000) in Potts & Ankrah (2013, pp. 242-244), it is ‘an established method for the evaluation and financial analysis of projects throughout their life cycle’, they (Potts & Ankrah, 2013) went ahead to point out that it is a ‘fully integrated project cost and schedule control system’ projecting trends analysis and the also showcasing the cost-to-schedule variance called and known as the ‘S’ curve.

Earned value analysis (management) is carried out by calculating three important values for each activity in the work breakdown structure as highlighted below (Potts, 2008) (Potts & Ankrah, 2013):

1. **The planned value (PV):** formerly known as the budgeted cost of work scheduled (BCWS) – that portion of the approved cost estimate planned to be spent on the given activity during a given period;

2. **The actual cost (AC):** formerly known as the actual cost of work performed (ACWP) – the total of costs incurred in accomplishing work on the activity in a given period. The actual cost must correspond to whatever was budgeted for in the PV and earned value (EV) (e.g. all labour, materials, construction equipment and indirect costs).

3. **The earned value (EV):** formerly known as the budget cost of work performed (BCWP) – the value of the work actually completed.

This approach (earned value management) according to Potts & Ankrah (2013) provides the most powerful tool/ system/model for cost control because it takes a snapshot status of the project at any point in time and able to predict future situations.

2.6 **THE NEED FOR IMPROVED CONTROL SYSTEMS WITHIN THE IRISH AND UK CONSTRUCTION INDUSTRY**

The large negative numbers of construction company decline calls for the need for better control systems within the project management department of the industry. Not failing to mention the highly effective project management systems that already exist such as the PERT Analysis that
indicates the critical path of a project, the Earned Value Analysis measures the budgeted against the actual in terms of time and cost, the Gantt chart showing graphical representation of project tasks, duration and resources attached etc (Owens, et al., 2007) and (Willett, 2011).

2.6.1 CONTINUOUS ATTEMPTS TO SOLVE THE CONSTRUCTION FINANCIAL ISSUES

After a research carried out in the UK by gaining insight from 250 construction project organisations and a follow-up with 15 interviews with experienced professionals, Olawale & Sun (2010) identified that design changes, risk and uncertainties, inaccurate evaluation of project time duration, complexity of works, and non-performance of sub-contractors where the most common and predominant causes for cost and time overruns on a project. They, (Olawale & Sun, 2010) went ahead and tried to proffer measures to mitigate these issues and classified them under preventive measures, predictive measures, corrective measures and organisational measures (culture).

Another suggestion by Sunil et al. (2015) to improve the cost issues in the construction industry is by harnessing the benefits of integrating Building Information Modelling (BIM) and cost management. The BIM presents its principles in 3D modelling, interoperability, parametric objects and advance information management features. The benefits to be gained are technical support, support for enhanced knowledge & understanding of project estimates techniques, support for enhancing data quality, support for integration and coordination of processes, and collaboration for cost management but even with BIM lies its challenges (Sunil, et al., 2015).

Extensive research has been carried out in the causes of cost overruns and poor financial management in the construction industry by Tony Cunningham (Cunningham, 2017) in Cost Control During the Construction Phase of The Building Project: The Consultant Quantity Surveyor’s Perspective and has put together recommendations for the control of cost during the construction phase of a building construction project; they are:

1. Using the control circle of preparing forecast, comparator period, compare the forecast vs the actual, analyse the report, action and implement, and budgetary controls.
2. Controlling the variables within the account i.e. prime cost sums, provisional sums, provisional quantities, variations, fluctuations, claims for delays and disruption, and the contingency sum.

3. And with the role of the Quantity Surveyor to control the consultants, create the awareness of change, reiterate the importance of communication, call on meetings, produce cost reports, monitor cash flows, implement value management and engineering, and full utilisation of his expertise and experience.

These findings of these research are useful to the industry and many are being implemented presently, but due the complex nature of the construction industry, we still have these problems of firms going into liquidation, cost overruns, project failures and all these signifies poor financial management in the industry (Varghese & Manacere, 2017), (Aljohani, et al., 2017). This calls for the need of more control measures in the financial management in the construction industry.

2.7 THE INCLUSION OF ‘TRACKING AMORTIZATION OF ADVANCED PAYMENT’ AS AN INDICATOR FOR PROJECT PERFORMANCE

Amortisation is an accounting/financial terminology and can be defined as the process of paying back a loan periodically over a stipulated time but in this research, the amortization is not the conventional type but rather the amortization of advanced payment (seen and treated as a non interest loan) provided by the employer to the contractor and collected back as the works progresses (Oprea, 2010).

Since these issues are more inclined to the poor financial management (Varghese & Manacere, 2017), perhaps more focus should be placed in those areas and thus the attention towards ‘The tracking Amortization of Advanced Payment’. The concept of amortization is more of an accounting terminology used in the paying back of loans with compounding interest also used in the construction companies as well but will be focussing on the Amortization of Advanced Payment; which is considered to be mobilization of an interest free loan from the owner to the
contractor (advance payment) that will be collected back as the execution of the works progresses at a rate as stipulated in the contract (Oprea, 2010).

There is no existing research as to the use of amortisation of advanced payment as a tool or indicator for tracking project performance, the closest research to that just cut across amortization in very general terms and focussed more on Equity breakeven point as graphical and tabulation tool for engineering managers (Badiru, 2016). To this end lies the difficulty in assessing the possibilities of this research through literature and will be more focussed in the primary research.

2.7.1 WHAT IS ADVANCE PAYMENT

An advance payment can be defined as a transfer of payment of some form of value between two parties in an agreed exchange (Designing Buildings, 2018), they went ahead to explain that this advance payment can be for goods, services or to fulfil a legal obligation, they continued by adding that this form of advance payment is made usually after an invoice has been presented to indicate the amount.

In some cases, it could be referred to as a down payment, as part of the contractual sum is paid in advance before the supply of goods is done or any services is carried out and thus detailed as prepaid expense (Designing Buildings, 2018).

In construction projects, where advance payment are requested by the contractor, they do this for the purpose of mobilization (significant start up) and also some procurement cost that has to be incurred before the beginning of the construction project (Designing Buildings, 2018). Some examples where this sort of advance payments may be required are for the procurement of high-value plants and equipment’s, or and materials purposely for the project.

Similarly (Hussin & Omran, 2009, p. 239) defined advance payments in construction as “advances of money made by the client of any project to a prime contractor, in anticipation of, and for the purpose of complete performance under one or more contracts”, but Rameezdeen, et al. (2006, p. 154) added that “it is an advance payment made by the client for initial expenditure in respect of site mobilization and a fair proportion of job overheads and preliminaries”.

Dickson Obinah, MBA
Dublin Business School, August 2018
2.7.2 APPLICATION OF ADVANCE PAYMENT

Advance payments presently in the construction industry are not applied to every contract but in some cases, like in some third world countries where it is difficult for contractors to get loans as identified by Rameezdeen, et al. (2006), they continued by stating some of the reasons or justification for advance payments as listed below:

- Decrease the financial burden of the contractor.
- Assist the contractor to face the difficulty of special mobilisation of project.
- Assist the smaller size contractor firm or the newer able to be competitive with the mature contractor firm. Normally, the advance payment will used by the contractor to purchase or pay for the rental of plant and equipment of construction and also to buy the construction material. Because of these, basically the client of the project will agree to assist the contractor by paying the advance payment with the amount partially of the contract price.

Also, Hussin & Omran (2009) provided a list of factors that requires the need of advance payments as highlighted below:

- To solve the problem of delayed payment.
- To speed up the progress of works.
- To prevent the delay of works.
- For extra the works.
- For the variation in quantity.
- In risk management.
- For changed conditions.
- To ensure the quality of works.

According to Rander (2014), an advance payment could be provided to a contractor to for the purpose of supporting the contractors position from a cash stand-point especially in the early stages (mobilization stages) of a development project. He (Rander, 2014) clearly outlines one of the reasons for an advance payment in development projects as agreed by Hussin & Omran (2009) that (in most cases are capital intensive and referred to as capital projects) i.e. for the ‘support’ of
cash flow to be able to kick start the project which may include procurement purpose, engagement of sub-contractors etc.

In addition, (Rameezdeen, et al., 2006) noted another reason stating that it (advance payments) is an ‘important mechanism’ to tackle the financial issues faced by contractors in developing countries, he added that the concept was born out of the need for small and medium scale contractors, to be more competitive with the funding they get at the project start.

The Defence Contract Management Agency (2014) specifically highlights where the use of advance payment can be and cannot be applied for their operations as listed below:

2.7.2.1 Advance Payments may be useful and appropriate for the following:

- Contracts for experimental, research, or development work with non-profit educational or research institutions.
- Contracts solely for the management and operation of Government owned plants.
- Contracts for acquisition at cost of facilities for Government ownership.
- Contracts of such a highly classified nature that the agency considers it undesirable for national security to permit assignment of claims under the contract.
- Contracts entered with financially weak contractors whose technical ability is considered essential to the agency. In these cases, the agency should closely monitor the contractor’s performance and financial controls to reduce the Government’s financial risk.
- Contracts for which a loan by a private financial institution is not practicable, whether or not a loan guarantee under this part is issued.
- Contracts with small business concerns, under which circumstances that make advance payments appropriate often occur.
- Contracts under which exceptional circumstances make Advance Payments the most advantageous contract financing method for both the Government and the contractor.

2.7.2.2 Advance Payments may not be used for the following:

- Rent,
- Tuition,
- Insurance premiums,
- Expenses of investigations in foreign countries,
- Extension or connection of public utilities for Government buildings or installations,
- Subscriptions to publications,
- Purchases of supplies or services in foreign countries, if:
  - The purchase price does not exceed $10,000 (or equivalent amount of the applicable foreign currency); and
  - The advance payment is required by the laws or government regulations of the foreign country concerned;
- Enforcement of the customs or narcotics laws; or
- Other types of transactions excluded by agency procedures under statutory authority.

2.7.3 MANAGEMENT OF ADVANCE PAYMENT

It is of the view of Hussin & Omran (2009) that when advance payments are made, the client/owner of the project are paying in exchange for nothing at that point in time but with the intention that some work would be done, or some services would be carried out. For this reason of leaving the owner at risk, some measures have to be put in place to protect the owner in the event of non-performance from the contractor (Designing Buildings, 2018) (Steensma, 2007).

2.7.3.1 Advance Payment Guarantee

An advance payment guarantee can be defined as a bond provided by a contractor to a client, employer, or owner on the understanding (agreement) to make an advance payment to the contractor and in turn the client holds on to the bond against under-performance of default from the contractor (Designing Buildings, 2018) (Hussin & Omran, 2009) (Rameezdeen, et al., 2006).

Where the terms of contract states advance payment (upfront payment) would be made for the supply of equipment or and services to meet the mobilization (or upfront cost) of the contractor, an advance payment guarantee would be required form the contractor before he receives that payment (Hussin & Omran, 2009) (Rander, 2014), similarly Rameezdeen, et al. (2006) couldn’t agree more by adding that the employer is oblige to make an advance payment (within two weeks) to the contractor after he has provided an advance payment guarantee covering the stipulated amount in the contract to be advanced.
2.7.3.2 Cashflow Forecast & Estimated Disbursement and Receipts Represented:

Other ways of monitoring and controlling the proper use of advance payments is done by requiring off the contractor a projected cash flow intended for the project (covering the duration of the project to be financed by the advance payment) and presenting estimated disbursement and receipts (Defence Contracts Management Agency, 2014).

Hussin & Omran (2009) also added that, the advance payment is further controlled by the contractor showing documental proof (invoices, receipts, etc) of expenses made purposely for the project e.g for the payment of equipment, plant and material mobilization. To firm-up this notion of monitoring and tracking advance payments, Rander (2014) went ahead to design a financial mechanism which he called “Modelling Advance Payments and Retentions in Construction Contracts”, a model specifically designed to manage the the contract in terms of its agreed variables as inputs (i.e. contract cost, percentage of the contract cost as advance payment, the retention percentage and limit on the project etc.) and provides a cash flow, presenting all necessary outputs i.e. the repayment of the advance payment on a schedule etc.

2.7.4 AMORTIZATION

Amortization is a terminology majorly from the accounting industry and only borrowed in to the construction industry in the area of construction accounting and finance. In pure forms (according to the accounting and finance industry) amortization is define slightly different compared to as seen in the construction industry when it comes to advance payments. The common factor between the accounting/ finance way of definition compared to that of construction if the gradual repayment, and the difference however would be that in the case of accounting interest is calculated while that advance payment in construction it’s just a payback without interest. The different definitions can be seen below.

2.7.4.1 Accounting Definition of Amortization

Merriam-Webster (2018) defines amortization in financial terms by saying “amortization is an accounting term that refers to the process of allocating the cost of an intangible asset over a period of time. It also refers to the repayment of loan principal over time”. The accounting definition of
Amortisation can be in two forms and they are both referred to as the ‘stream of regular payments that accomplish either of the following’ below as described by Business Case Analysis (2018);

1. Reduce the book value of intangible assets.
2. Pay off loans or other debt.

Accounting Tools (2017) also defined amortization as an “accounting technique used to lower the cost value of a finite life or intangible asset incrementally through scheduled charges to income.” It can be described as the repayment of debt in regular instalments over time e.g. repayment of a mortgage, car loan etc.” and “it can also mean the deduction of capital expenses over the asset's useful life where it measures the consumption of an intangible asset’s value, such as goodwill, a patent or copyright”.

They (AccountingTools, 2017) (Business Case Analysis, 2018) (Merriam-Webster, 2018) also agreed that “amortization can also mean the deduction of capital expenses over the asset’s useful life where it measures the consumption of an intangible asset’s value, such as goodwill, a patent or copyright” but The Business Dictionary (2018) pointed out one major part in is definition by adding the gradual payment of the loan in equal or nearly equal installments ‘includes the portions of the interest as well as principal amounts’.

2.7.4.2 Definition of Amortization for the Purpose of Advance Payment Repayment in Construction

Amortization of advanced payment can be defined an advance payment (seen and treated as a non interest loan) initially provided by the employer to the contractor and then collected back in planned instalments as the works progresses and accordance to the terms and conditions of the contract (Oprea, 2010) (Rameezdeen, et al., 2006, pp. 157, 162, 163).

Some of the reasons for advance payment in construction as highlighted by Hussin & Omran (2009) are:

- Decrease the financial burden of the contractor.
- Assist the contractor to face the difficulty of special mobilisation of project.
- Assist the smaller size contractor firm or the newer able to competitive with the mature contractor firm. Normally, the advance payment will use by the contractor to purchase or pay for the rental of plant and equipment of construction and also to buy the construction material. Because of these, basically the client of the project will agree to assist the contractor by paying the advance payment with the amount partially of the contract price.

2.7.4.3 Similarities and Difference Between Accounting/Finance Type and Advance Payment in Construction Type Amortization

From the definitions of amortization above, both in terms of the accounting/finance and the amortization for advance payment, there are quite a few similarities as well as differences as illustrated in the table below.

<table>
<thead>
<tr>
<th>Amortization: Accounting/Finance</th>
<th>Amortization: Advance Payment In Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognised as a loan with interest</td>
<td>Recognised as a loan but without interest</td>
</tr>
<tr>
<td>Gradual payment of the loan in equal or nearly equal instalments ‘includes the portions of the interest as well as principal amounts’</td>
<td>Gradual repayment of advance through the duration of the project with no interest</td>
</tr>
<tr>
<td>Schedule is drawn up for instalment payments through the duration of the loan period as agreed in the terms and condition for the loan</td>
<td>Schedule is drawn up for payback which is tied to the progress of the work and through the generation of interim certificates and in accordance to the repayment plan and rates as stated in the terms and conditions of the construction contract</td>
</tr>
<tr>
<td>It could be seen as the following:</td>
<td>It could only be seen as payback of advance payment for the purpose of procurement of capital assets.</td>
</tr>
<tr>
<td>1. Reduce the book value of intangible assets</td>
<td>(Rameezdeen, et al., 2006) (Hussin &amp; Omran, 2009)</td>
</tr>
<tr>
<td>2. Payoff loans or other debt</td>
<td></td>
</tr>
<tr>
<td>(Business Case Analysis, 2018)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 Showing Similarities and Difference Between Account/finance Amortization and Amortization of Advance Payment in Construction
2.7.4.4 Core Principles in Accounting/Finance Amortization Applied in Amortization of Advanced Payment in Construction

From the definitions above as well as the similarities and differences of amortization in the accounting/financial terms and the amortization of advanced payment in construction, there are some two core principles to take note of, and they are seen below as identified by (Merriam-Webster, 2018) (Business Case Analysis, 2018) (AccountingTools, 2017) (Rameezdeen, et al., 2006) (Hussin & Omran, 2009) (Oprea, 2010):

- Repayment of the loan
- Schedule of Repayment

For the two types mentioned above, the principle of payback or repayment of the loan or the advance payment though they differ slightly in the sense that one has interest applied to it and the other is interest free.

The other aspect would be that they both make use of schedule of repayment or pay back plan as stipulated in the terms and conditions of the loan in the case of pure accounting/finance amortization and terms and conditions of the contract in the case of amortization of advanced payment; it is also important to note that the way the schedule is developed may differ in the different cases.

2.7.4.5 Tracking Possibilities of Amortization of Advance Payment in Construction

This research once again is focussed on the possibilities of the inclusion of amortization of advance payment as a project tracking technique, haven shown or highlighted above the principles of the core accounting/finance amortization being applied also in the amortization of advance payment in the construction industry, it is also necessary to try and compare how this is tracked in the accounting/financial industry and figure how it is also done or could be done in the amortization of advance payment in the construction industry since the core principles align as identified below:

1. Contract Bound: Having terms and agreement to form a contract of part of the contract for the loan or the advance payment.
2. Schedule for Repayment: Programme of works tied to schedule of repayment and in accordance to contract terms.
3. Performance: Programme is relatively tied to Performance.
Explaining in reference to the definitions of amortization, the similarities and differences and as well as the underlying principles above and in relation to the alignment of the principles, it would be obvious to say that the basic principles applied to amortization for accounts/finance for tracking purposes may also apply to that of amortization of advance payment in the construction as well as highlighted in the three (3) points above. Looking at them in more details are:

2.7.4.5.1 Contract Bound: Having Terms and Agreement to Form a Contract or Part of The Contract for the Loan or the Advance Payment

A contract is defined as “a consistent and fault tolerant execution of an arbitrary sequence of predefined actions (steps) according to an explicitly specified control flow description (script)” (Davies, 1978) in (Reuter, 1989). According to the definition, a contract holds in it terms and conditions for its execution, it could also be referred to as a binding legal document stating whatever has been agreed between the parties.

For the purpose of this study the amortization of advance payment has its terms and conditions stated in the contract which serve as a guide as to how it is executed and could always be referred back to. This shows accountability in the process and also its legal bounds and these sets the basis for tracking (Berger & Udell, 2005).

There is no better way to explain this but by given an example of clauses in the FIDIC form of construction contract below:

In accordance to FIDIC Conditions of Contract, Clause No. 14 Contract Price & Payment and Sub-Clause No. 14.2 Advance Payment (Dayal, 2013), it states that:

“The advance payment shall be repaid through proportional deductions in interim payments. Deductions shall be made at the amortization rate stated in the Particular Conditions (or, if not so stated, as stated in sub-paragraph (d) which states that if the Particular Conditions does not state the amortization rate for repayments, then it shall be calculated by dividing the total amount of the advance payment by the Contract Price stated in the Contract Agreement less Provisional Sums), which shall be applied to the amount otherwise due (excluding the advance payment and deductions and repayments of retention), until such time as the advance payment has been repaid”
2.7.4.5.2 Schedule for Repayment: Programme of Works Tied to schedule of repayment and in accordance to contract terms

According to Berger & Udell (2005), they were able to link the contract to the schedule of repayment and also as a measure of keeping control or tracking the performance of the loan, they also noted by adding that a measure of the ability to meet the amortization schedule is one of the primary financial analysis carried out; in other words if the repayment is being done in accordance to the schedule, it indicates good performance and if otherwise bad performance.

They went further to note that “monitoring the borrower’s ability (i.e., its cash flow) is tied to the observation of timely repayment as specified by the amortization schedule”, it just simply give an indication of the performance of the borrower (Berger & Udell, 2005, p. 7).

Also as explained in the earlier section above by given an example of clauses in the FIDIC form of construction contract below, also see below:

In accordance to FIDIC Conditions of Contract, Clause No. 14 Contract Price & Payment and Sub-Clause No. 14.2 Advance Payment (Dayal, 2013), it states that:

“The repayment of the advance payment will start when the certified interim payments exceed 10% of the accepted contract amount. The reimbursement rate shall be 25% of the amount of each payment certificate. The guidance for the preparation of the particular conditions states that these figures were calculated on the assumption that the total advance payment is less than 22% of the accepted contract amount. Any outstanding balance will immediately become due on the issue of the taking over certificate for the works or prior to termination under Clauses 15, 16 or 19 of FIDIC”

2.7.4.5.3 Performance: Programme is Relatively Tied to Performance

Time, cost and work performed in construction are always inter-woven as this has been extensively analysed by Rasdorf & Abudayyeh (1991) in Cost and Schedule Control Integration: Issues & Needs; by Marrero, et al. (2014) in Schedule and Cost Control in Dwelling Construction Using Control Charts and thirdly by Jrade & Lessard (2015) in An Integrated BIM System to Track the Time and Cost of Construction Projects: A Case Study. Programme, also referred to as schedule
of a construction project shows the activities to be carried out over the time frame of the project and those activities in turn indicates the value of the work done so far on the project.

With these three factors inter-woven with each other, then the relationship between the monies amortized at any point in time on the project should show a relationship as to how much work has been done on the project also in relation to schedule and the amortization schedule or plan as stipulated in the contract terms.

However, this is one of the aims of this research to be able to interview experienced individuals in the construction industry and explore their opinions on this.
3. CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

After proper considerations, the appropriate process for the design of this research (the inclusion of amortization of advance payment as an indicator for project performance) was carried out with the research onion as a guide in choosing and developing the process through the research.

The methodology that will be adopted is the qualitative approach which will be used to address the principal aim of this research i.e. the critical assessment the possibilities of ‘tracking amortization of advance payment’ for the purpose of determining construction project performance.

This will be achieved by gaining insight and perceptions of real-life scenarios by interviewing practicing individuals in the construction industry. The level of involvement can be expected to be high as it is centred within the experience of the participants (Creswell, 2003). And finally, after analysing, conclusions will be made with the theories and perceptions. The details of the methodology are as highlighted below.

3.2 RESEARCH QUESTION

The main question in this research addresses the primary aim of the research and this is it:

- Can the tracking of ‘amortization of advanced payment’ be related to construction project performance?
- Can the tracking of ‘amortization of advanced payment’ be used to determine project status?

If ‘amortization of advanced payment’ can be planned and agreed in the project contract, this plan can also be represented in a form of schedule, then it may, or could be tracked or monitored as
the plan can be tied to the schedule. Also, at any point the progress of that payment can be tied to the progress of the project directly.

The research questions would try to address the relativeness or the relationship of tracking of ‘amortization of advanced payment’ and ‘project performance’.

### 3.3 RESEARCH DESIGN

In designing this research, the “Research Onion i.e. the layers of the research process” has been adopted. As can be seen in the figure below the two outermost layers gives guidance for the philosophy, and approach to theory development. The next three layers in yellow gives guidance on methodological choices, strategies that could be adopted, and the time horizon of the research while the centre gives guidance on the data collection and data analysis (Saunders, et al., 2016) (Saunders & Lewis, 2018, p. 105).
For this research the design has been duly considered to suit the aims and objectives of the research, the design was carried out on the basis that it answers the research question and the therefore following process below has been chosen, they are:

- Research Philosophy - Interpretivism
- Research Approach to theory Development - Induction
- Methodological Choice - Mono Qualitative Method
- Strategy - Narrative Inquiry
- Time Horizon – Cross-Sectional
- Techniques & Procedures - Data Collection and Analysis

The rest of this chapter explains in details and gives justification for the research design and process that has been chosen an adopted.

### 3.4 KEY PHILOSOPHICAL CONCEPTS

Three key concepts in philosophy according to Saunders & Lewis (2018), and Saunders, et al. (2016) are Ontology, Epistemology and Axiology. Please see brief description Ontology and Epistemology below as they are more closely related to this research but more justification would be given as to why this research falls under the epistemological concept further below:

#### 3.4.1 ONTOLOGY

This concept of research acknowledges the fact that each individual is unique in the way they perceive things and situations and in their experiences, and could change after a while and in a different situation; it therefore incorporates ‘all theoretical and methodological positions’ (Eriksson & Kovalainen, 2008) (Saunders & Lewis, 2018) (Saunders, et al., 2016). The objectivist view of ontology assumes that there is the existence of realities outside the ‘knower’ while the subjectivist view assumes that two realities cannot exist and therefore relies on the realities of the
A Critical Assessment into the Inclusion of 'Tracking Amortization of Advanced Payment' as an Indicator for Project Performance

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Dublin Business School, August 2018

3.4.2 EPISTEMOLOGY

This key concept majorly concerned with the question what knowledge is and ‘what are the sources and limits of knowledge’, it also tries to characterise the principles by which knowledge is possible. Just like ontology it has its objectivist and subjectivist viewpoints, the objectivist view of ontology assumes that there is the existence of realities outside the ‘knower’ while the subjectivist view assumes that two realities cannot exist and therefore sees the realities of the ‘knower’ as absolute; the ‘knower’ can be defined as the group of power structure (Eriksson & Kovalainen, 2008, pp. 13, 14).

3.5 RESEARCH PHILOSOPHY

The philosophy for this research would be duly selected based on suitability after considering and exploring the five major research philosophies for business management namely Positivism, Critical Realism, Interpretivism, Postmodernism and pragmatism (Saunders & Lewis, 2018) (Saunders, et al., 2016).

3.5.1 POSITIVISM

With positivism, there is no ambiguity but rather a close to exact form of knowledge with its methods or using methods that have been tested to genuine facts that has not been influenced by bias (Saunders & Lewis, 2018) (Saunders, et al., 2016), Eriksson & Kovalainen (2008, pp. 17, 18) also agreed with this view by adding that positivism is a research born out of “desire for universal truth that would hold world-wide across industries” and that it’s also an “assumption that only legitimate knowledge can be found from experience” but however they, (Eriksson & Kovalainen, 2008, p. 18) pointed that its relevance in business research is low due to the fact that “knowledge is obtained with the application of scientific methods to experiences”. Saunders & Lewis (2018, pp. 107, 108) went ahead to explaining further that in exploring positivism, you would:
See the social realities you are studying as real in the same way as physical objects and natural phenomena are real;

Focus on discovering observable and measurable facts and regularities, and only phenomena that you can observe, and measure would lead to the production of credible and meaningful data;

Look for casual relationships in your data to create law-like generalisations similar to those produced by scientists;

Use these universal rules and laws to help you explain and predict behaviour and events in organisation.

This form of research would mostly be a highly structured methodology enable quantifiable replication of scenarios and events (Saunders & Lewis, 2018).

3.5.2 CRITICAL REALISM

Compared to positivism, this is also a research method based or that relates to scientific inquiry, this can also be sub-divided into two parts called critical realism and direct realism according to Saunders & Lewis (2018). The first school of thought critical realism believes that there is an object and then the impressions or perceptions of the object, and then those impressions/perceptions could be interpreted subjectively while the direct realism argues that “what you see is what you get; our impression/perceptions is an accurate representation of the world” (Saunders & Lewis, 2018, pp. 108,109). This philosophy could be adopted when looking for casualties in a company because of its detailed and accurate analysis however it may be a difficult approach for business research (Eriksson & Kovalainen, 2008).

3.5.3 INTERPRETIVISM

According to Saunders, et al. (2016, p.140, 141) and Eriksson & Kovalainen (2008) interpretivism can be compared to positivism but with from a more subjective view. One of the main views of interpretivism is that it argues that a research of social science and a reserah of natural science are different and need to be approach differently because “human in their social worlds cannot be studied in the same way as a physical phenomenom”. The interpretative research is born out of the philosophies of hermeneutics and phenomenology impelled by the concept of the social construct of reality (Berger & Luckmann, 1967 in Eriksson & Kovalainen, 2008) (Bryman & Bell, 2015).
This type of research (the interpretivist perspective) is of high relevance in fields of organisational behaviour, marketing and human resource management (Saunders & Lewis, 2018), Saunders, et al. (2016, p. 140, 141) further agrees with this notion by adding that the interpretivist research “creates new, richer understanding and interpretation of social worlds and context”.

### 3.5.4 POSTMODERNISM

This type of research philosophy seeks to define what is ‘true’ and ‘right’ determined questioning the power structures by a way of also involving the marginalised views and not just a particular group of power structures (‘alliance’), these groups of power structures will or may differ from organisation to organisation depending on their core functions; for example the lawyers would be of a stronger powers structures in a law firm while that of an accounting firm would be the accountants (Saunders & Lewis, 2018, p. 110) (Saunders, et al., 2016, pp. 141, 142). Eriksson & Kovalainen (2008, p. 21) also agrees with this by adding that does not recognise the ‘knower’ as one with the influence or specialist knowledge.

### 3.5.5 PRAGMATISM

This type of research philosophy does not necessarily have its difference from others but is like a combination of others and working with divers types of knowledge and method by considering the ‘most important dominant’ of the research philosophy you adopt (Saunders & Lewis, 2018, p. 111). It’s a research that aims to merge or resolve both objectivism and subjectivism, facts and values, and adopts different or rather multiple methods in doing this as it believes that the world could be understood in different ways (Saunders, et al., 2016).

### 3.5.6 PHILOSOPHICAL CHOICE FOR THIS RESEARCH

For the purpose of this research the interpretivist philosophy has been adopted as it is most suitable for obtaining the findings in the context of the research that may lead to new findings (understandings) in the form of new concepts or a development on an existing concept, according to Saunders, et al. (2016, pp. 140, 141) it “creates new, richer understanding and interpretation of social worlds and context”.

*Dickson Obinah, MBA
Dublin Business School, August 2018*
The concept of the inclusion of amortisation of advanced payment for tracking purposes would be a fairly new concept in the construction industry and so therefore it would be best to carry out the research with an interpretivist view point.

Please see figure below showing comparison of five research philosophies in business and management research according to Saunders, et al., (2016, pp. 136, 137).

<table>
<thead>
<tr>
<th>Ontology</th>
<th>Epistemology</th>
<th>Axiology</th>
<th>Typical Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real, External, Independent</td>
<td>Scientific method</td>
<td>Value-based research</td>
<td>Typically deductive, highly structured, large samples, typically quantitative methods of analysis.</td>
</tr>
<tr>
<td>One true reality (universality)</td>
<td>Observable and measurable faces</td>
<td>Research is detached, neutral and independent of what is researched</td>
<td></td>
</tr>
<tr>
<td>Granular (things)</td>
<td>Law-like generalisations Numbers</td>
<td>Researcher maintains objective stance</td>
<td></td>
</tr>
<tr>
<td>Ordered</td>
<td>Casual explanation and predictions contribution</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Critical Realism**

- **Empirical, the actual and the real**
  - Epistemological realism
  - Knowledge historically situated and transient
  - Researcher acknowledges bias by world views, cultural experience and subordinating
  - Researcher tries to minimise bias and errors
  - Researcher is as objective as possible

**Interpretivism**

- **Socially constructed through culture and language**
  - Theories and concepts are symbolic
  - Focus on narratives, stories, perceptions and interpretations
  - Researchers are part of what is researched, subjective
  - Researcher interpretations key to contribution
  - Researcher reflexive

**Postmodernism**

- **Socially constructed through power relations**
  - What counts as ‘truth’ and ‘knowledge’ is decided by dominant ideologies
  - Focus on absences, silences and oppressed/unexpressed meanings, interpretations and voices
  - Some research narratives are repressed and silenced at the expense of others
  - Researcher radically reflexive

**Pragmatism**

- **Reality is the practical consequences of ideas**
  - Practical meaning of knowledge in specific context
  - True theories and knowledge are those that enable successful action
  - Researcher reflexive
  - Emphasis on practical solutions and outcomes

**Legend**

<table>
<thead>
<tr>
<th>Chosen Research Philosophy</th>
<th>Other Research Philosophies in Comparison</th>
</tr>
</thead>
</table>

*Table 5 Showing Comparison of Five Research Philosophies in Business and Management Research as Illustrated in Saunders, et al., (2016, pp. 136, 137).*
3.6 RESEARCH APPROACH

The choice of research approach is very important as has been carefully decided for this research approach in relation to theory development, there are three important reasons for this as described in Easterby-Smith, et al. (2012) and Saunders, et al. (2016) They are:

1. It enables a more informed decision about your research design, which is more than just
   the techniques by which they are analysed.
2. It will help in thinking about the research strategies and methodological choice that would
   work for you and those that would not.
3. The knowledge of the different research traditions enables you to adapt your research
   design to cater for constraints.

3.6.1 DEDUCTION

Deduction according to Saunders & Lewis (2018, p. 112) is defined as “a research approach in
which a theoretical position is examined (tested) with a research strategy specifically designed to
collect data for the purpose of its testing”. And there are 5 sequential stages involved as described
below (Saunders, et al., 2016). They are:

1. Defining research questions from the general theory that exists
2. Operationalising these questions in a way that enables what is occurring to be established
   – specifying the way the questions would be answered.
3. Collecting data to answer operationalized questions or test the hypothesis
4. 4. Analysing the data collected to determine whether it supports the existing general theory
   or suggests the need for modification.
5. Confirming the initial general theory or modifying it if the findings do not confirm the
   existing general theory.

3.6.2 INDUCTION

Induction according to Saunders & Lewis (2018, p. 113) is defined as “a research approach which
involves the building of a theory from analysing data already collected”. This approach differs
from the deductive approach in the sense that the deductive is a top-bottom while the inductive
is bottom -top approach in theory development (Saunders, et al., 2016) . This approach allows to
gain an understanding of meanings humans attach to events. (Saunders & Lewis, 2018).
3.6.3 **CHOICE OF RESEARCH APPROACH: ABDUCTION**

The choice for this research is in line with the abductive (a mix of inductive and abductive) approach within a naturalistic environment that would (may) lead to the development of an additional perspective of a theory (an inclusion to the existing theoretical perspective), that would be tested in the course of the research (Saunders, Lewis & Thornhill, 2016). This approach moves back and forth from theory and data unlike the deductive that moves from theory to data and the inductive from data to theory.

3.7 **RESEARCH STRATEGY – NARRATIVE INQUIRY**

The strategy intended for this research is the “narrative research” (narrative inquiry through interview) because according to Coffey & Atkinson (1996) in Saunders, Lewis & Thornhill (2016 pp.198), “an account of an experience told in a sequenced way, indicating a flow of related events that, taken together, are significant for the narrator and would convey meaning to the researcher”.

This will be achieved by gaining insight and perceptions of real life (natural) scenarios by interviewing practicing individuals in the construction industry. The level of involvement can be expected to be very high as it is centred within the experience of the participants in “contextual detail and social relations” (Creswell, 2003) (Saunders, Lewis & Thornhill, 2016).

3.8 **RESEARCH METHODOLOGICAL CHOICE: QUALITATIVE INTERVIEW**

The methodological Choice most appropriate for this research is the qualitative (mono method) research, by face to face interviews as the aim is to be able to view and explore perceptions of experienced individuals in the field of study. This would allow the capture of more and relevant details from the interviewees (Saunders & Lewis, 2018) (Saunders, et al., 2016) (Flick, 2014).

The methodology that will be adopted is the qualitative approach which will be used to address the principal aim of this research i.e. the critical assessment the possibilities of ‘tracking
amortization of advance payment for the purpose of determining of construction project performance. It would be achieved by gaining insight and perceptions of real-life scenarios by interviewing practicing individuals in the construction industry. The level of involvement can be expected to be high as it is centred within the experience of the participants (Creswell, 2003) (Saunders & Lewis, 2018).

The data from this qualitative research will be descriptive and therefore be reported (transcribed) principally in the participant’s words or pictures, instead of numbers. (Creswell 2003), it will focus on the process and the product and more emphasis will be made on “how things occur” as stipulated by Creswell (2003).

3.8.1 DESIGN AND STRUCTURE OF INTERVIEW QUESTIONS

The design and structure of the interview conducted for this research was done in alignment with the recommendations of Kvale (1996) in (Sewell, 2018), The seven stages of designing and implementing an interview study; They are Thematising, Designing, Interviewing, Transcribing, Analysing, verifying and Reporting.

3.8.2 ADVANTAGES AND DISADVANTAGES OF USING QUALITATIVE INTERVIEWS

The methodological choice chosen comes with its pros and cons, this were pointed out according to Sewell (2018).

3.8.2.1 Advantages

- Allows the participant to describe what is meaningful or important to him or her using his or her own words rather than being restricted to predetermined categories; thus, participants may feel more relaxed and candid
- Provides high credibility and face validity; results "ring true" to participants and make intuitive sense to lay audiences
- Allows evaluator to probe for more details and ensure that participants are interpreting questions the way they were intended
Interviewers have the flexibility to use their knowledge, expertise, and interpersonal skills to explore interesting or unexpected ideas or themes raised by participants

Sometimes no existing standardized questionnaires or outcome measures are available that are appropriate for what your program is trying to accomplish

### 3.8.2.2 Disadvantages

- May be experienced as more intrusive than quantitative approaches; participants may say more than they intended to say, and later regret having done so
- May be more reactive to personalities, moods, and interpersonal dynamics between the interviewer and the interviewee than methods such as surveys
- Training interviewers and conducting interviews can be expensive and time-consuming, because qualitative interviewing requires considerable skill and experience
- Analysing and interpreting qualitative interviews is much more time-consuming than analysing and interpreting quantitative interviews
- More subjective than quantitative interviews because the evaluator/researcher decides which quotes or specific examples to report.

Having known the advantages and disadvantages of doing qualitative and quantitative interviews, the author of this research was better equipped to take on board the positives elements of conducting a qualitative interview and also to watch out for or avoid the disadvantages; in other word it made him better equipped for his interviews.

### 3.9 TIME HORIZON

#### 3.9.1 LONGITUDINAL STUDY AND CROSS-SECTIONAL STUDY

‘Longitudinal studies can be defined as the study of a particular phenomenon (or phenomena) over an extended period of time while cross sectional research is the study of a particular phenomenon (or phenomena) at a particular time’ (Bryman & Bell, 2015, pp. 61-72) (Saunders, et al., 2016, pp. 200, 714, 721).
The time horizon for this research is the cross-sectional study as this will be used to capture a snapshot in time rather than over a long period of time (Bryman & Bell, 2015, pp. 61-72) (Saunders, et al., 2016, pp. 200-201). This is also because of the time constraint on this research. The studies would be achieved by collecting data through qualitative method of interviews over a short space of time.

3.10 RESEARCH SAMPLING

The sample would be selected from practicing participants at managerial levels with considerable amount of experience within the construction industry, there to project managers, quantity surveyors and academicians with expertise in the financial models and financial monitoring and control for construction projects.

The sample group would be small and such that much could be learnt (as a result of the level of experience) from those selected and are critical to their views and perceptions on the context (‘inclusion of tracking amortization of advanced deposit for project progress and performance’) (Saunders, et al., 2016).

The approach would be focused on a small group within the construction industry (between a minimum of 5 to a maximum of 10 participants), these proposed participants are identifiable and reachable as the researcher has had the opportunity to interact and deal with them on a professional basis.

The form of interviewing people or individuals already familiar with is called backyard research as outlined by Glesne (1999, pp. 26-28) in Eriksson & Kovalainen (2008, pp. 51-57). This form of identifying research participants are always useful as it gives easier access to both the individuals, materials and could also help in developing a more detailed knowledge in the research context.
3.11 DATA COLLECTION

This section details the forms of data collection for this research, through the secondary and the primary research. The secondary data collection was done to give a background knowledge of the areas of research as well as justifying the need for the research and the primary data was collected through a qualitative method of interviews to understand and investigate in detail the concept of including amortization of advanced payments as an additional method for tracking project performance. The two methods (secondary and primary) of data collection used in this research are detailed below.

3.11.1 SECONDARY DATA COLLECTION

This is the collection of processed information from a couple of sources such as conference papers and proceedings, journal articles, peer reviewed articles, thesis’s, dissertation research, government reports as well as reports from professional organisations, books, book sections, government websites and websites of professional organisation and institutions, electronic sources, interviews etc (Saunders & Lewis, 2018), some of which includes some sort of raw data collected and used for some other purposes.

The figure below shows the collection of secondary data used in this research also as explained by Saunders, et al. (2016) in Saunders & Lewis (2018).
3.11.2 PRIMARY DATA COLLECTION

Data collection would be through Semi-Structured Interview (as the area of research falls under the “exploratory and evaluative” study) where themes and a list of possible questions would be used as a guide (Saunders, et al., 2016, pp. 390-393).
It is semi-structured due to my level of experience of interviews rather than an unstructured interview where the interviewer has more freedom to talk about events, behaviours and beliefs (Bryman & Bell, 2015, pp. 210-214).

However, exploring the unstructured interview for the purpose of gaining deeper depths in the area of the research but this would be dependent on my level of confidence with the skills for business and management research interviewing as outlined in BBC College of Journalism website (Saunders, Lewis & Thornhill, 2016 pp. 289). This will be done by asking at least one or two open ended questions to be able to get an un ‘controlled’ response from the interviewee and really exploring his or her true thoughts.

This would be achieved through face to face interviews both in the traditional and digital form (real ‘face to face’ or with the use of technology i.e. skype, what's app. etc.). This would be dependent on the availability and convenience of the interviewee.

The issue that may occur with this kind of data collection are:

- cooperation and willingness to participate,
- gaining access to interviewees,
- scepticism of being recorded,
- availability from very busy interviewees etc.

The primary data was collected over five interviewees of relevant experience in the construction industry, they had substantial experience in the field of project management and quantity surveying all put together is an average of thirty years of working experience.

3.12 DATA ANALYSIS

The method of data analysis that would be used for this research is the Thematic Analysis, where an index of central themes and sub themes would be represented in a matrix spreadsheet with display of cases and variables (Bryman & Bell, 2015 pp. 578-604).
It (thematic analysis) provides “one way thinking” of how to manage themes and data, through a framework for analysis of qualitative data (Bryman & Bell, 2015 pp. 559).

Recommendations for searching for themes according to Ryan & Bernard (2003) in Bryman & Bell (2015) are as follows:

- Repetitions
- Indigenous typologies or categories
- Metaphors and analogies
- Transitions
- Similarities and differences
- Linguistic connectors
- Missing data
- Theory related material

Similarly, five steps of analysing data as recommended by Greenfield (2002) was also considered and form part of the knowledge used for the analysis, they are: collecting the data, reduction of the data, display of the data, draw conclusions and verification of findings.

Furthermore, to these guide rules, the following steps were taking to analyse the data collected as recommended by Creswell (2003) and Greenfield (2002).

1. The data collected over recordings were first transcribed
2. The codes were allocated to each interviewee for the reason of confidentiality as promised and as part of my ethical considerations.
3. A read through was done to acquire an overall sense of the information and reflect on the importance; the credibility of the information provided by the interviewees was also weighed as well as the depth of the information.
4. The different information from the interviewees were categorised in to sections and termed after being compared between the different interviewees, checked for similarities and differences, the information was also checked for credibility and also to see its relationship with the secondary research (literature review).
5. Discussions were critically analysed and appropriate conclusions were then drawn from the termed and categorised information with a focus on the making proper sense of the similarities of the discussion and also pointing out the areas of differences.

3.13 RESEARCH ETHICS

3.13.1 ETHICAL ISSUES THAT MAY ARISE IN THE COURSE OF THE RESEARCH ARE:

1. Invasion of Privacy
2. Data management
3. Reciprocity and trust
4. Lack of informed consent
5. Affiliation and conflict of interest

(Bryman & Bell, 2015 pp.128-155).

3.13.2 THE RESEARCH WOULD BE CARRIED OUT WITH THE FOLLOWING ETHICAL CONSIDERATIONS:

1. Keep respondents and the information they provide confidential.
2. Present and discuss possible theme questions intended for interviewee first to supervisor for approval.
3. By conducting the research in line with:
   - Sociology Association of Ireland (SAI) ethical guidelines
   - Dublin Business School ethical review process
   - Dublin Business School guidelines on ethical approval
   - Seeking consent by presenting info-sheet consent form to participants
3.14 RESEARCH LIMITATIONS

3.14.1 SOME LIMITATIONS COULD BE FOR THIS RESEARCH COULD BE:

- Willingness and level of participation of selected interviewees.
- Nature of the busy schedules of the selected samples.
- Travel expenses for ‘face to face’ interviews as I hope to cover both the Irish and UK Construction Industry.
- Malfunction of technological mediums (Internet, recording devices etc.).
- Conducive location of interviews as I may not have full control of the choices.

3.14.2 MEASURES TO MITIGATE THESE LIMITATIONS ARE:

- Early notifications would be sent out to gauge the willingness to participate
- Visa to the UK has been granted, and where travel expenses may be high, the use of technology would come into play.
- Prior testing would be carried out for technological products/mediums to properly understand the mode of operation and familiarizes with them.
- Suggestions would be made as to conducive and convenient venues.
- Gaining Interviewing Skills to attain better competency.
- For loss of information, Back-ups would always be kept as the dissertation work progresses so as to be able to refer to the latest update in the case of a miss happening.

3.14.3 OTHER LIMITATIONS OF THIS RESEARCH INCLUDES:

4. In the analysis of the primary research, there wouldn’t much referral to the secondary research data because it is a whole new area of thought that hasn’t been practiced or explored. The concept was able to be related some worth away from the construction industry and into the accounting and banking sector, the only relationship to the construction industry was in the aspect of loans.
Due to the fact that it’s a whole new area as described above, and not much of secondary research available; this posed another form of limitation but because the researcher was aware of this, he dwelled more on the relating circumstances, focused on the problems leading to the research and the justification for an investigation into the issue and the need for other forms of cost control measures in the construction industry.

This limitation was also mitigated with the researcher’s motivation to investigate into the alarming issue and the fact that this research would form a basis for further investigations; this is actually one of the aims of this research.
4. CHAPTER 4: ANALYSIS & FINDINGS

4.1 INTRODUCTION

As stated earlier in the research methodology, the data from this qualitative research will be descriptive and therefore be reported (transcribed) principally in the participant’s words or pictures, instead of numbers (Creswell 2003). It will focus on the process and also the product and more emphasis will be made on “how things occur” as stipulated by Creswell (2003). The primary data was collected over five interviewees of relevant experience in the construction industry, they had substantial experience in the field of project management and quantity surveying all put together is an average of thirty years of working experience.

4.2 OVERVIEW OF THE PROFESSIONAL ROLES AND LEVEL OF EXPERIENCE OF THE INTERVIEW PARTICIPANTS FOR THIS RESEARCH

4.2.1 JUSTIFICATION FOR THE QUESTION:

It was important that the professional experience of the interviewees was captured because according to the research methodology, the interviews would give a deep insight because of the level of experience of the participants. The search for the participants was centred around the project managers and quantity surveyors in the construction industry they have considerable amount of experience.

The five (5) participants for this research put together have an average work experience of thirty (30) years, participant 1 has a total experience of over 40 years, Participant 2 has 33 years, participant 3 has another 35 years, participant 4 has 22 years and participant 5 has 15 years of experience.
Because of their multiple and long years in the industry as practicing project managers and quantity surveyors, it provides more credibility and authenticity to the primary research and it can be said that the primary research meets the reliability and validity standards.

Below are brief overviews of the experience of the participants.

4.2.2 PARTICIPANT 1:

He is a capital project consultant (a role he got after his retirement because of his extensive knowledge in their project operations) for the Bank of Ireland Group Property, he has about forty (40) years of experience working in the construction industry, has handled and worked in various roles in the bank including Head of Retail Facilities, also a part of the research and development in the Irish construction Industry, contributing to the professional development in the industry. His recent article (Adding Value for Clients) was published in the Surveyors Journal Volume 7, Issue 3, Autumn 2017.

He has a broad experience profile which spans across all aspects of Capital Estate Management, this starts with project justification - matching the product and cost to the potential returns.

4.2.3 PARTICIPANT 2:

He is a Senior Contracts Manager with Robert Quinn Limited, a quantity surveyor by profession and has about 33 years in the construction industry. He is a chartered member of the Royal Institute of Chartered Surveyors (RICS), a chartered member of the Society of Chartered Surveyors Ireland (SCSI), an incorporated member of the Chartered Institute of Building (CIOB). He has practiced with a couple of firms in the industry and some of which are Kentz – SNC Lavalin Group, Nolan Ryan Tweeds, DF Warren Limited and R&B O’Connor Building Contractors and handled roles as a quantity surveyor, project manager, senior quantity surveyor, contracts manager, assistant commercial manager and commercial manger.

He is a highly experienced Construction Professional and Chartered Quantity Surveyor with a well-rounded knowledge of construction generally, he prides himself in his objective is to continually
learn and gain further experience within the Construction Industry to enhance what I can bring to the table for future Clients and Employers.

4.2.4 PARTICIPANT 3:

He has worked as a senior contracts manager and cost manager for Vear building Services (a UK based Firm Construction), his history within the industry is principally training as a quantity surveyor, and then going through the industry, specifically with regards to fit-out and refurbishment work and having had worked for private companies for about ten years (the first part of my working carrier) then having my own business for approximately 20 years, and finishing off his carrier effectively with Vear Building Services. He is 62 -63 years old and approaching retirement.

He possesses in excess of 35 years’ experience within the contracting industry which has generally included fitting out and refurbishment in the following sectors; Retail, Leisure, Commercial & Industrial, Educational.

4.2.5 PARTICIPANT 4:

He is at present a Project Manager for Bank of Ireland and has been with the bank for the last two years, prior to that have worked with a number of development companies for the last 20 years and most recently was a company controlled by Larry Goodman, who was the developer of the old bank of Ireland project on Baggot street worth about 160 million euros of re-development. 18 years of his experience would be in the development management, construction of apartments, offices and retail units.

He has held the positions of Architectural Technician, Senior Architectural Technician, Project Coordinator and Project Manager though his career in the construction Industry.

4.2.6 PARTICIPANT 5:

He is a structural engineer and at present, works with Vision Built Limited we are LGS Designer and Manufacturing Company with a factory based in Galway, he operates within the offices in the
UK and in Ireland. He has been with the company for about 3 years as a Design Manager and his role basically is to manage the design process, interface with clients from the start to the very end of the project (conceptual stage, design process and through the execution, completion and final sign-off to handover.

He holds a first degree in civil engineering and a master’s degree in construction cost and project management. In total he has roughly about 15/16 years of experience as structural Engineer, Civil Engineer, Project Manager and Currently Design Manager in the construction industry.

4.3 OVERVIEW OF THE CONCEPT OF AMORTIZATION OF ADVANCE PAYMENT

4.3.1 JUSTIFICATION FOR THE QUESTION:

This was question was structured to gain insight of each participants knowledge on the research area. It was designed to evaluate the level of their knowledge in the subject area and guide the interviewer on how he can structure the rest of his interview questions as he has some level of flexibility (semi structured interview) in other words ask other supporting questions to get the right and appropriate information.

4.3.2 THE ANALYSIS AND FINDINGS:

According to participant 1, the term amortization is not so common in the building industry because its limited application but more common with depreciation capital allowance (other financial terms used in the construction industry) but Participant 2 understands quite alright and explained by saying it’s the “paying back of an up-front payment over the duration of the project, may be not over the complete life cycle of the project but at least 75% to 80% of it”.

The third participant figures the concept has been around for a sometime in the industry when calculating sums of variations that are applied for against what is actually paid and factored also in the retention. And the other he recognizes is offered in other to attract further discounts from
project value by paying in advance for the works or supplies to be done and deducted over time as the works progress in a systematic manner.

The forth participant explains the concept of amortization of advanced payment in practical terms by illustrating how the process works i.e. the link of the overall budget cost and schedule therefore being able to determine how much work has been done at any point in time and therefore deducting from the payment due, a percentage of the initial amount advance on the project and continued through the duration of the project.

The fifth participant also explained that it’s an upfront payment but in the case of his present business is usually done in high percentages and retired over time through the progress attained in fabrication (production) and procurement.

From the expressions and narrations of the 5 participants above of the concept of amortization of advance payment all from different viewpoints including the additions of participant 1 who also explained it from the accounting terms of definition such as intangible assets, depreciation and capital allowance which conforms some of the definitions of the concept form an accounting/ finance as earlier defined in chapter 2 of this dissertation work.

The second participant’s definition was the better fit for amortization of advance payment especially form the definition from the construction industry i.e. “paying back of an up-front payment over the duration of the project, may be not over the complete life cycle of the project but at least 75% to 80% of it” as earlier defined by Oprea (2010), Rameezdeen, et al. (2006, pp. 157, 162, 163), they defined amortization of advanced payment as a payment (seen and treated as a non interest loan) initially provided by the employer to the contractor and then collected back in planned instalments as the works progresses and accordance to the terms and conditions of the contract.

In addition to their years of experience their views of the concepts of amortization of advanced payment shows that they would be able to contribute in great details because of their understanding. Also, for the sake of clarity of the concept of amortization of advance payment, the researcher went ahead to give a brief overview of the concept so the rest of the discussion through the interview is clear of ambiguity.
4.4 HOW IS THE AMORTIZATION OF ADVANCE PAYMENT MANAGED AND IF NOT PRACTICED, WHAT SYSTEM WAS USED IN YOUR PRACTICE?

4.4.1 JUSTIFICATION FOR THE QUESTION:

The reason for this question was to further gain insight to know if they had experienced the use of the process hands on. Understanding the concept is one aspect of it, working through the process is another aspect. No doubt from the level of experience they all have, they could picture the concept properly and be able to see how it could be applied but the research thought it was also important to know if they had used and practiced this concept through or at some point in their experience.

The second part is like a follow – on question to say, if you did not apply this system in your practice? What other system did you practice and manage? This would provide more information as to other cost management systems that are used in the construction industry.

4.4.2 THE ANALYSIS AND FINDINGS:

From the experiences of the five participants, they hadn’t worked on such project where advance payments were provided for them and therefore didn’t have to manage the payback (amortization) of the advance payment, this further confirms the application of amortization as earlier stated in Chapter 2 (literature review) of this research work. The application of advance payment according to Rameezdeen, et al. (2006), are applied in some third world countries where it is difficult to get loans and to assist the contractors and states that it is an ‘important mechanism’ to face financial issues faced by contractors in developing countries; it therefore helps to:

- Decrease the financial burden of the contractor.
- Assist the contractor to face the difficulty of special mobilisation of project.
- Assist the smaller size contractor firm or the newer able to be competitive with the mature contractor firm. Normally, the advance payment will used by the contractor to purchase or pay for the rental of plant and equipment of construction and also to buy the construction material. Because of these, basically the client of the project will agree to
assist the contractor by paying the advance payment with the amount partially of the contract price.

Hussin & Omran (2009) also provided a list of factors that support the needs for the use of advance payments and Rander (2014) are applied to support the contractor position from a cashflow standpoint.

Furthermore, The Defence Contract Management Agency (2014) for their operations specifically highlights where the use of advance payment can be and cannot be applied as can be seen in Chapter 2 (literature review) – Under Section 2.7.2 Application of Advance Payment.

The second part of the question was to have an idea of the systems they used to manage cost in their practice and Participant 1 was used to the pay in areas kind of system i.e. work is done for 30 days and the interim certificates are prepared based on work done and presented for payments which they in about another 30 days given an areas total of 60 days and the circle continues for monthly payment till the end of the project.

This method practiced by participant 1 seems to be the same cases with participants 2, 3, 4 and 5, and is called the earned value analysis type of financial cost management model in the construction industry as discussed in Chapter 2 – under section 2.5 Existing Cost Management Systems/ Models in the Construction Industry.

Another interesting form of cost management system according to participant 5 as currently used in his most recent employment has to do with advance payment as well but does not fall under the traditional management system because the works are considered to be specialist works. The advance payment is managed the employer by making sure the monies provided in advance are strictly used for offsite fabrication and procurement.
4.5 THE POSSIBILITIES OF TRACKING AMORTIZATION OF ADVANCE PAYMENT AS AN INDICATOR FOR PROJECT PERFORMANCE

4.5.1 JUSTIFICATION FOR THE QUESTION:

This question is the main question for the entire research i.e. A Critical Assessment into the Inclusion of ‘Tracking Amortization of Advanced Payment’ as an Indicator for Project Performance. There was no further way to break it down into smaller fragments. Other questions were centered around this question to seek the interviewees knowledge of the concept, exceptions for the application, adoption of the concept etc. The possibility of doing this is to be able to see the relationship between the paybacks (monies amortized) and the project performance status.

With the knowledge base of the participants, one can establish the possibilities of this concept and hope to see through their experience with the perceptions they offer.

4.5.2 THE ANALYSIS AND FINDINGS:

Participant 1 compared it to the bank loans back in the times were 100% upfront loans were given to developers but also noted that that does not seem to be the case anymore because in his words “I supposed that at the back of any bankers mind lending money, they need to keep the lender key and interested, there has to be a fall back on them to control performance” he continued by explaining that for any advance payment or loan given it would have to be monitored in some way to know if it is being used for the right purpose, and the only way to doing this is by monitoring output performance of the loan. In other words, the banking industry the performance is monitored and measured by adhering to your payback schedule while the in the construction industry it would be the same only this time it is linked to performance.

Participant 2 believes there would be a relationship between the payback (monies amortized) and the work performance as it is a part deduction of the initial advanced payment from the value of work earned at different points, He went ahead to say that it is logical enough because the schedule would clearly show that; as the works progresses, payments would be made for the works upon which some pay back is made on the initial advance payment. The points made by participant 2 is
in accordance to the secondary data collated in Chapter 2, Section i.e. 2.7.4.5 Tracking Possibilities of Amortization of Advance Payment in Construction. He was also eager to point out the benefits of the advance payment for cash flow for the contractor which would be discussed in further questions below.

Participant 3 did not state out rightly the relationship between the monies amortized and the performance status of the work, but he mentioned that when the injection of cash upfront is made, he assumes that that injection of cash is paid back through the valuation process. The valuation process here is referred to the earned value process which ties the work-done (performance) to payments.

Participant 4 understands that there would be a relationship but was more concerned about other variables that has to be considered as well, and in his words, he said, “I think it be hard to determine because of the complexities involved in the construction process and the variables it presents”. The variables in question could be extension of time, increase in scope, change in clients requirements and other unforeseen situations and he gave an example of a refurbishment project that didn’t allow for asbestos and suddenly found it had to do an asbestos survey; that would increase the cost for the contracting for the survey to be done as well as the time it would take to do it before the construction process continues. The concerns for participant 4 are genuine, that was why in the question asked, it says supposing all variables were duly considered do you think there wold be a relationship that could be used to determine the project performance from the monies paid back (amortization) to date?

Participant 5 responded to the question by saying since the cash flow had already be planned from the start of the project, there would definitely be a relationship between the payments from the client of which some of it goes back to the client in form of amortization of the initial advance payment. But he went ahead to note that delayed payments form the client could also affect the performance of the project.

The 5 participants though from various viewpoint s all noted that there would be some relationship between the monies amortized and the performance of the project and in their view since the payments are made do as the work progresses then those progress made on the project could be captured as the performances at those payment points. Some of the participants went ahead to
give some benefits and defects with such systems which would be discussed further down in the analysis.

4.6 WHAT ARE THE EXCEPTIONS, IF ANY FOR THE APPLICATION OF THE CONCEPT OF TRACKING AMORTIZATION OF ADVANCE PAYMENT AS AN INDICATOR FOR PROJECT PERFORMANCE?

4.6.1 JUSTIFICATION FOR THE QUESTION:
The justification for this question was to assess the circumstances or situations to which this concept can be applied or not. Though it is certain that it has to be included in the terms and conditions of the contract, but it would be important to know if there are limitations to its application.

4.6.2 THE ANALYSIS AND FINDINGS:
According to participant 1, he responded as to exceptions from the monitoring and control of the concept rather than exceptions as to the application which was intended, he said benchmarks would have to be set up for this to be monitored so that contractors to not take advantage of or abuse the system of upfront payments.

Participant 2 went straight to the point saying, yes there would be exceptions and particularly mentioned that it would be difficult to introduce in Ireland because of the existing contracts types and cost control systems already in place but may be most preferable for larger sized projects. He also made it clear that there would be trust related issues in its execution if it were to be introduced.

Participant 3 viewed it more critically from the forms of contract predominantly used in the UK construction industry i.e. the JCT form of contract, and although the JCT form of contracts allows for advance payments but only in certain circumstances and conditions (very exceptional cases and some conditions has to be met for it to be granted). Participant 4 also agreed with the perceptions
of participant 3 in terms of the contracting perspective that it would be more suitable for some type of contracts over the others.

While Participants 2, 3 and 4 are in some worth agreement with their perceptions i.e. that there would be exceptions in terms of the type of contracting executed, Participant 1 went ahead to view his perspective on how the inclusion of the concept would be monitored if it were introduced and suggested that there would need to be monitored at different stages for compliance.

### 4.7 HOW COULD THIS CONCEPT OF ‘TRACKING AMORTIZATION OF ADVANCE PAYMENT AS AN INDICATOR FOR PROJECT PERFORMANCE’ BE ADOPTED INTO THE CONSTRUCTION INDUSTRY, THE BENEFITS AND THE DRAWBACKS IF ANY

#### 4.7.1 JUSTIFICATION FOR THE QUESTION:

This question was designed to examine the extent of the practicability of the concept by its adoption or implementation into the existing processes in the construction industry ad also what it would take to get it incorporated as an accepted form of control. Also, to examine their perceptions on the potential benefits and drawbacks of the application of the concept.

#### 4.7.2 THE ANALYSIS AND FINDINGS:

Participants 1, 3, 4 and 5 perceives that it would be a good idea to be adopted but in doing this the construction industry at large would have to buy into it and come up with control and monitoring measures to ensure that that the process is not abused but Participant 4 emphasized that it would also be the responsibility of construction firms to integrate it into the models for their operations.

According to participant 1, 2, 3 and 5, they believe that the introduction of the system or the wide adoption of the system and its concept would be beneficial in the construction industry for a
A Critical Assessment into the Inclusion of ‘Tracking Amortization of Advanced Payment’ as an Indicator for Project Performance

Dickson Obimah, MBA
Dublin Business School, August 2018

A couple of reasons amongst which is the injection of cash flow for the contractors, they continued by adding that this up-front payment would also fast track the project to timely delivery.

One of the benefits as perceived by participant 1 and 5 would be that the upfront payment would show the financial buoyancy of the client in having the capacity to go through to the end of the project rather than leaving contractors exposed when they can’t get their payment after work has been done.

The draw backs according to participants 1, 4, and 5 believes that the widely use of the system would leave clients more exposed to risk of uncompleted projects rising from defaulting contractors.

Another drawback perceived by participant 2 is the issue of trust in terms of paying in advance to a contractor even before the works are carried out but he also mentioned that except proper measures are placed such as the prequalification process of the contractor has to be more vigorous to be sure that they are competent enough but having good financial stands and have the capacity for the job they are applying for. He went ahead to add that the large and medium scale contractor may not have much of a problem with that, but his concern would be for the small scaled contractors.

Participant 1 did not leave the banking industry out of this as he understood they (the banks) didn’t have the ‘universal knowledge base’ especially when granting loans for development projects and they should have professionals like quantity surveyors integrated into their system to help them monitor the approval of loans and the amortization thereof.
4.8 EXPLORING THE CAUSES OF THE CAUSE OF FINANCIAL PROBLEMS IN THE CONSTRUCTION INDUSTRY IN THE PRESENT UK AND IRISH CONSTRUCTION INDUSTRY.

4.8.1 JUSTIFICATION FOR THE QUESTION:

This question was further included after two of the interviews were already conducted to explore further into the reasons for financial issues in the UK and Irish construction industry especially with the most recent construction companies going into liquidation, some of which the Carillion are, Manley and Sammon. The question was designed as one thrown into the wide open to gain their individual perceptions.

4.8.2 THE ANALYSIS AND FINDINGS:

Participants 3 and 5 indicated that some of the financial issues in the construction industry is the highly competitive nature of the industry in recent times and the large construction firms would suffer it the most because of their high overheads. Participant 3 went ahead to give an example that occurred in his firm; that on a renewal of a three-year contract, the client did not consider inflation for the new contract but instead forced a further 10 percent discount on them. He continued by explaining that the firm has had to look for ways to reduce their operating cost in order to stay in business or rather meet up with the highly competitive nature present in the industry.

Participant 5 noted that the complexities present in the construction industry poses as a source of concern which could lead to financial issues, he noted them as listed below:

1. Inadequate Scope Change and Management,
2. Change in Clients requirements,
3. The multiple interfaces of professionals and trades in the industry,
4. The uniqueness of projects might present unique challenges as well – unforeseen circumstances.

Participant 3 added that the labour shortage in the industry may be another contributing factor, professionals are now hired at a higher cost due to scarcity of resources.
Participant 1 couldn’t understand as he presented in his explanation the inefficiency in the construction industry regarding payment and can’t envision the industry operating the way it does, he explained further by given an example of payments for his furniture (being constructed) that had to pay to the last penny before they were delivered to him but this is quite different in the construction industry.

He also noted that developers had contractors into financial situations by engaging them to do work in the millions and not being able to pay and for this he suggests again that the upfront payment would be beneficial.
5. CHAPTER 5: DISCUSSION

5.1 SUMMARY OF FINDINGS

The purpose of this research is to critically assess the inclusion of tracking amortization of advanced payment as an indicator for project performance, and it was to be achieved by answering the following research questions:

- Can the tracking of ‘amortization of advanced payment’ be related to construction project performance?
- Can the tracking of ‘amortization of advanced payment’ be used to determine project performance status?

In turn the objectives would be as follows:

- To evaluate the process of advance payment and corresponding amortization plan as an integral part of financial management in the construction industry.
- To evaluate the amortization plan and its relativeness to project performance.
- To evaluate the perception of the amortization of advanced payment for tracking by industry experts in the construction industry.

The Summary of findings for this research are as follows:

5.1.1 OVERVIEW OF THE CONCEPT OF AMORTIZATION OF ADVANCE PAYMENT

From the overview explanation of the concept of amortization of advanced payment shows that they would be able to contribute in great details because of their understanding. Also, for the sake of clarity of the concept of amortization of advance payment, the researcher went ahead to give a brief overview of the concept so the rest of the discussion through the interview is clear of ambiguity.
5.1.2 HOW IS THE AMORTIZATION OF ADVANCE PAYMENT MANAGED AND IF NOT PRACTICED, WHAT SYSTEM WAS USED IN YOUR PRACTICE?

It was discovered that most of the participants do not have a hands-on experience as to the have directly practiced the concept and utilize it (the use of advance payments in their contract), this is because the application is rare as the forms of contract they practice have strict limitations for its use as understood from the secondary research. The application of advance payment according to Rameezdeen, et al. (2006), are applied in some third world countries where it is difficult to get loans and to assist the contractors and states that it is an ‘important mechanism’ to face financial issues faced by contractors in developing countries; it therefore helps to:

- Decrease the financial burden of the contractor.
- Assist the contractor to face the difficulty of special mobilisation of project.
- Assist the smaller size contractor firm or the newer able to be competitive with the mature contractor firm. Normally, the advance payment will used by the contractor to purchase or pay for the rental of plant and equipment of construction and also to buy the construction material. Because of these, basically the client of the project will agree to assist the contractor by paying the advance payment with the amount partially of the contract price.

Hussin & Omran (2009) also provided a list of factors that support of needs the use of advance payments and Rander (2014) are applied to support the contractor position from a cashflow standpoint.

Furthermore, The Defence Contract Management Agency (2014) for their operations specifically highlights where the use of advance payment can be and cannot be applied as can be seen in Chapter 2 (literature review) – Under Section 2.7.2 Application of Advance Payment.

5.1.3 THE POSSIBILITIES OF TRACKING AMORTIZATION OF ADVANCE PAYMENT AS AN INDICATOR FOR PROJECT PERFORMANCE

Yes, the tracking of amortization of advance payment can be used as an indicator for project performance.
This is the most important aspect of the research as it has to do with recognizing the relativeness of the monies amortized to the project performance. It was discovered that the 5 participants though from various viewpoints all noted that there would be some relationship between the monies amortized and the performance of the project and in their view since the payments are made do as the work progresses then those progress made on the project could be captured as the performances at those payment points.

However, some of the concerns expressed were the complex nature of construction projects and all the interplay of different variables such as change in time, cost, scope and client requirement and think it may be complicated to execute.

5.1.4 EXCEPTIONS, IF ANY FOR THE APPLICATION OF THE CONCEPT OF TRACKING AMORTIZATION OF ADVANCE PAYMENT AS AN INDICATOR FOR PROJECT PERFORMANCE

Yes, there would be exceptions as to the use of forms of contract and for this to be achieved the conditions for amortisation must be stated in the terms and conditions of the contract. So, the contract is key component to this process. The secondary research also supports this finding as it states earlier in Chapter 2.7.4.5 i.e. Tracking Possibilities of Amortization of Advance Payment in Construction, it must be contract bound and from the contract a schedule is drawn up from the terms and conditions of the repayment.

5.1.5 HOW COULD THIS CONCEPT OF ‘TRACKING AMORTIZATION OF ADVANCE PAYMENT AS AN INDICATOR FOR PROJECT PERFORMANCE’ BE ADOPTED INTO THE CONSTRUCTION INDUSTRY, THE BENEFITS AND THE DRAWBACKS IF ANY

5.1.5.1 Benefits

Yes, it would be a good idea to be adopted but in doing this the construction industry at large would have to buy into it and come up with control and monitoring measures and that it would also be the responsibility of construction firms to integrate it into the models for their operations.
The injection of cash flow for the contractors would be beneficial and would also fast track the project to timely delivery.

The concept would show the financial buoyancy of the client in having the capacity to go through to the end of the project rather than leaving contractors exposed when they can’t get their payment after work has been done.

From the view of the participants, the industry would be very open to explore this concept especially with the difficulty of obtaining loans which eventually add to the cost the projects.

5.1.5.2 Drawbacks

That the wide use of the system may leave clients more exposed to risk of uncompleted projects rising from defaulting contractors.

5.1.6 EXPLORING THE CAUSES OF THE CAUSE OF FINANCIAL PROBLEMS IN THE CONSTRUCTION INDUSTRY IN THE PRESENT UK AND IRISH CONSTRUCTION INDUSTRY.

It was discovered that some of the factors responsible for the financial situations in the construction industry are due to the complexities present in the construction industry poses as a source of concern. Some of which are as earlier noted in the secondary research are:

1. Inadequate Scope Change and Management,
2. Change in Clients requirements,
3. The multiple interfaces of professionals and trades in the industry,
4. The uniqueness of projects might present unique challenges as well – unforeseen circumstances,
5. labour shortage.

Some new findings however are:

1. Highly competitive nature of the industry in recent times and the large construction firms would suffer it the most because of their high overheads.
2. The inefficiency in the construction industry regarding payment.
3. Developers had run contractors into financial situations by engaging them to do work in the millions and not having the financial capacity to pay.
6. CHAPTER 6: CONCLUSION & RECOMMENDATIONS

The construction industry, when compared to others has always been a difficult one operationally due to its ‘multi-faceted’ and ‘complex’ nature and high uncertainty levels which has led to a couple of failures in the past and even present. These complexities are ever present and the only way it could be dealt with is by continuous improvement through development, research, and the eagerness to solve the issues. The issues can be said to cover a broad spectrum of areas and factors but always leading in one direction i.e. the financial and cost related issues and therefore the need to continually improve the processes, systems, and models of cost and financial control in the industry.

This primary aim of this research centred around cost control in the construction industry i.e. a critical assessment into the inclusion of tracking amortisation of advance payment as an indicator for project performance. This gave rise to the main research question, ‘can the use of tracking amortisation of advance payment lead to an indication of the status of a project’?

The application of logic to this end states that If ‘amortization of advanced payment’ can be planned and agreed in the project contract, this plan can also be represented in a form of schedule, then it may, or could be tracked or monitored as the plan can be tied to the schedule. Also, at any point the progress of that payment can be tied to the progress of the project directly.

But to further investigate this logical reasoning, a qualitative research was carried out to seek the opinions and insight of experienced and practicing individuals in the construction industry through a semi-structured interview and found that ‘Yes’, there lies the possibility of tracking amortization of advance payment which could be used in turn to determine the project performance at any point in time. This finding then means that it could be an easy way to know when a project is in trouble, it could also be a faster way to know if a project is in trouble and requires more attention to have it back on track or back in control.

But for this to be achieved successfully, some other factors need to be considered and therefore the need to adhere to the following recommendations below:
6.1 RECOMMENDATIONS

This study found that there is a relativeness between amortization of advance payments and the performance status of that project at any point in time. This is determined by the payment schedules drawn up from the contract terms and conditions tied in to the programme of works. Invariably the amount of work achieved also determines the amount the contractor is paid of which a percentage as determined in the contract terms is paid back as amortization. The findings from the primary research well support the concept. Therefore, please see the following recommendations below.

- But for this to be a successful, this needs to be incorporated into the control system of any company and well as the industry putting measures in place to support the idea.

- The injection of cash flow through advance payment would be beneficial and could fast track the delivery of projects provided control measures are put in place to make sure the clients are not left exposed to risk.

- The use of advance payment could also be used to determine the financial buoyancy of the client to know if or not he (the client) has the financial capacity to undertake the project through to the end. And serves as some level of commitment from the client.

- In order to implement the use of tracking amortization of advance payment, the variables such as change in time, cost and scope needs to be well articulated and considered before the process can work.

6.2 LIMITATIONS

Apart from the limitations initially expressed in the research methodology, here are some very specific limitations I experienced through the execution of this research.

The interviews conducted was to the exact minimum number required in the research plan, it was supposed to be between 5 and 10, may be an average of 7 would have given a more rounded details
as to the perceptions of professionals. None of the participants of the interview had had a hands-on experience on the amortization of advance payment in their practice, however because of their professional background and level of experience, their perceptions were valid but may have been better if they had hands on experience.

6.3 SUGGESTIONS FOR FURTHER RESEARCH

- Researchers can use this research as a base and take a deeper study into the concept of tracking amortization of advance payments for project performance status.

- More ways to deal with the root causes of the financial/cost related issues in the construction industry should be researched and explored. Also, the construction industry at large needs to continue the research on better cost control management systems and models.

- Further research needs to be carried out to understand the play of other variables such as change in time, change in scope, change in client’s requirements, etc. and how it affects the process, or process.

- Further research could also be carried out as to understand the variables and how it relates to the process and leading to the formulation of an equation with the variables change in time, scope and cost as inputs for computation.

- Deeper research could be carried out to understudy the possibilities of tracking amortization of advance payment in real life scenario’s (case study) and watch the outcome over a longer period.

- This research focuses on the Irish and UK construction industry, but the research could be further developed by exploring it in a wider context.
7. **CHAPTER 7: SELF REFLECTIONS AND LEARNING**

7.1 **INTRODUCTION**

In this chapter, the author tries to give an account of his reflection through the MBA course which comprises the taught courses through semester 1 and 2 and the research (dissertation) he undertook.

In doing this he tries to:

- Introduce himself,
- Make assessments on his learning styles in relation to his personality,
- Give an insight of his expectation for the MBA program,
- Give a narration of his skills development through the MBA Program and focuses on his learning and Skill development through his research (dissertation),
- List some of the challenges he faced and how he was able to deal with them and
- A conclusion on his overall self-reflection and learning experience.

7.2 **PERSONAL/PROFESSIONAL INTRODUCTION**

Dickson Obimah is a Project Manager with vast experience in the AEC (Architectural, Engineering and Construction) Industry with ten years and counting. Having worked in the capacities of Head-Project Management, Head-Technical Services, Head-Operations, in Nigeria, The Democratic Republic of Congo and presently in The Republic of Ireland, Dickson has successfully supervised, managed and coordinated various projects from initiation through execution and to closure with the following means:

- Working with tested, proven and widely accepted sets of project management processes and procedures and able to tailor them to suit the project objectives.
- Also working to meet the organizational business strategic objectives and goals.
Armed with three degrees from Nigeria, The United Kingdom and presently an MBA in The Republic of Ireland, including a series of training and professional certifications of international standards and recognition, Dickson Obimah’s long-term goal is to occupy a relevant role in a competing and challenging organization, proffering solutions in alignment with business strategic goals.

7.3 MBA EXPECTATIONS

The expectations from this degree are basic and straightforward. being of a highly technical background having studied architecture for first degree, construction project management at masters’ level and been practising for more than a decade. Most people from this industry (construction industry) tend to be more focused on technicalities of the job and neglecting the business side of it because of the kind of the work environment (highly projectized environments).

The tendency to focus on the delivery of projects in terms of being on time, on budget and within the right quality bracket and failing to consider or not paying much attention that it is a business and needs to make profit to remain in existence.

The two main expectations the researcher has for this Degree are:

1. To gain the necessary knowledge for managing a business and be able to apply it to his field of practice (Projectized Environment).

2. To gain exposure that will make him more viable in the labour market having gain knowledge in the business field (added advantage).
7.4 LEARNING STYLE

7.4.1 VAK LEARNING STYLE

This is a model named as an abbreviation from Visual – Auditory – Kinetic learning styles, the concept of this model by psychologist/ specialists by the names of Fernald, Keller, Orton, Gillingham, Stillman and Montessori was first developed in the teaching of children in the early 1920’s, but has gain a reasonable amount of recognition because its principles can be applied to all types of leaning development and deemed beneficial to all as well (BusinessBalls, 2017) (James Cook Univesity, 2013). The abbreviation VAK means the Visual, Auditory and Kinetic Learning styles as described by BusinessBalls (2017) and James Cook Univesity (2013) below:

7.4.1.1 Visual learning style

Someone with a Visual learning style prefers seen or observed things, including pictures, diagrams, demonstrations, displays, handouts, films, flip-chart, etc. These are the people who will work from lists and written directions and instructions.

7.4.1.2 Auditory learning style

Someone with an Auditory learning style prefers the transfer of information through listening: to the spoken word, of self or others, of sounds and noises. These are the people who are happy being given spoken instructions and can remember all the words to songs that they hear.

7.4.1.3 Kinaesthetic learning style

Someone with a Kinaesthetic learning style prefers physical experience - touching, feeling, holding, doing, practical hands-on experiences. These are the people who like to experiment, hands-on, and never look at the instructions first. The author of this dissertation carried out a VAK Learning Style Self-Assessment Test on himself and found that he is a combination of the visual and the auditory learning style, but the auditory style is more dominant.

Please see Appendix 9.5.1 for the VAK - Self Assessment Test Score.
7.4.2 KOLB’S LEARNING STYLE

![Kolb's learning styles diagram](image)

Figure 4 Showing Adaptation and Design by Alan Chapman 2006 based on Kolb’s Learning Styles of 1984 (BusinessBalls, 2017).

From the figure/diagram above, and very similar to the VAK learning styles above, the Kolb’s experimental learning theory outlines four ‘distinct’ learning styles listed below from a four stage cycle.

7.4.2.1 The Four Stage Cycle

1. Concrete Experience - Feeling
2. Reflective Observation - Watching
3. Abstract Conceptualization - Thinking
4. Active Experimentation – Experimentation

The Four type Definition Learning Styles described below (BusinessBalls, 2017).

1. Diverging: These people can look at things from different perspectives. They are sensitive. They prefer to watch rather than do, tending to gather information and use
imagination to solve problems. They are best at viewing concrete situations several different viewpoints.

2. **Assimilating:** The Assimilating learning preference is for a concise, logical approach. Ideas and concepts are more important than people. These people require good clear explanation rather than practical opportunity. They excel at understanding wide-ranging information and organising it a clear logical format.

3. **Converging:** People with a Converging learning style can solve problems and will use their learning to find solutions to practical issues. They prefer technical tasks and are less concerned with people and interpersonal aspects. People with a Converging learning style are best at finding practical uses for ideas and theories.

4. **Accommodating:** These people use other people’s analysis, and prefer to take a practical, experiential approach. They are attracted to new challenges and experiences, and to carrying out plans.

From the self-assessment test the author of this dissertation carried out on himself, he found that he belongs to the group of the Assimilating Learning Style, this also conforms with the VAK Learning style self-assessment he carried out as well.

### 7.4.3 LOCUS OF CONTROL

The locus of control is a social learning theory and psychologically proven to be true as developed by Julian Rotter. This theory (social learning theory) suggests that that the level of strength given to an expectation is dependent on the level of occurrence of the expected event or behaviours in the future in other words, “if you expect something to happen and it does, your expectation is reinforced and if your expectation does not occur, your expectation is weakened” (Yemen & Clawson, 2003).

Yemen & Clawson (2003) went ahead to add the postulations of Julian Rotter that those that have more reinforced expectations believe that the decisions they have made and actions they have taken more or less determines the cause of events and they possess an ‘internal locus of control’
and vice versa those that have a weakened expectation often believe that luck, fate, chance or other forces beyond their control may have occurred possess an ‘external locus of control’.

This social learning theory (Locus of Control) can be applied oneself to see if you are an internal or external by using the scoring the locus of control instrument as developed by Terry Pettihohn (professor of psychology department at Mercyhurst College in Erie, Pennsylvania), a variation from the original by Julian Rotter; the author of this dissertation carried out a test and the result ‘was very strong internal locus of control’, and below are the attributes of the internal locus of control according to Yemen & Clawson (2003):

- Enjoy high moral development
- Independent of intelligence, remember more bureaucratic information
- More apt to repress failures
- Lower anxiety levels compared to externals
- More persuasive and able to influence others
- More resistive to attempts of manipulation than when provided with conscious choices
- Will conform if conformity it to their advantage and if otherwise will resist
- Will work hard towards a task with minimum motivation especially if they have been successful in the past.
- Places skills on conditions rather than chance
- More likely to attain higher academic achievements

*Please Refer to Appendix 9.5.2 for the Locus of control - Self Assessment Test Score.*

7.4.4 SOCIAL STYLE (PERSONALITY IN RELATION TO LEARNING STYLE): PROFILE AND PITFALL SCORING CHART

There are four major social styles namely the Analytical Social Style, Driver Social Style, Amiable Social Style, and the Expressive Social Style (Merrill & Reid, 1999) (TRACOM, 2018) (TRACOM, 1991).

The figure below gives a summary of the four social skills and their characteristics
From the personality assessment the author of this work carried out on himself, it was discovered that he belongs to the Driver group of social styles.

*Please Refer to Appendix 9.5.3 Social Style - Self Assessment Test Score.*
7.5 LEARNING DEVELOPMENT THROUGH MBA TAUGHT COURSES

The Author’s reflections on his learning experience through his MBA program has been fulfilling, knowing how much knowledge he has gained and acquired through the year, He can now express better depth of knowledge in some new areas as well and has made him a better person academically and in terms of exposure.

Below are some of his reflections of the courses he studied through the MBA program and dissertation experience put down in bullet points on a module-by-module heading.

7.5.1 FINANCIAL ANALYSIS

▪ The ability to use management accounting information in modern business
▪ Evaluation of good and reasonable financial decision-making techniques for appraisal of business projects
▪ The ability to critically analyse financial reports for investment decisions.

7.5.2 PERSONAL AND PROFESSIONAL DEVELOPMENT

▪ He now knows himself in greater detail i.e. personality, his strengths and weaknesses etc.
▪ Understands his ability to use theory and practice in evaluating critically and analysing situations.
▪ Learned the importance of ethics in business and enough knowledge to know when to draw the line no matter the situation we are faced with.

7.5.3 INTERNATIONAL MANAGEMENT

▪ Learned to know the importance of governments and international institutions and the roles they play.
▪ Has better understanding and how to react to change on a global context.
▪ Has better knowledge on evaluating analysing business environments in an international context.
7.5.4  STRATEGIES FOR HUMAN RESOURCES

▪ He now possesses adequate knowledge on the evaluation of HRM practices in modern times.
▪ Understands the dynamics (advantages and disadvantages) of recruitment and selection to increased motivation in the workplace including internationally (Expatriation).
▪ Has in-depth knowledge on Competency and Diversity based resourcing and how it stands out in employee resourcing with great benefits.

7.5.5  BUSINESS STRATEGIES

▪ He can now critically evaluate strategic positions of organisations in a variety of organisational context and able to evaluate strategic choices available with the use of significant and appropriate tools to conduct analysis.
▪ Has the ability to give insight on how implementing of strategic choices can be carried out in an organisation and to create a competitive advantage.
▪ He is now in a much better position to evaluate the effectiveness of the organisational strategy implemented and proffer solutions where there are deficiencies to fill performance gaps.
▪ He now understands the need and usefulness of the integration of information and communication technology into the organisational structures to support the formulation and implementation of strategy.

7.5.6  PERFORMANCE DRIVEN MARKETING

▪ He can confidently assess critically the role of marketing in the corporate context.
▪ He can now develop complex strategic marketing decisions.
▪ He is now in a better position to critically evaluate appropriate marketing concepts and techniques in strategic marketing decision making.
▪ He now has a better understanding on the evaluation of the importance of the marketing mix in achieving strategic objectives.
Haven been part of a team that developed a marketing plan for or choice of organisation as part of or course work for the second continuous assessment, he can say he now has a good knowledge governing principles and theories in the application of marketing strategy formulation and implementation to achieve competitive advantage.

7.5.7 PROJECT MANAGEMENT TOOLS AND TECHNIQUES

- He understands better importance of the application projects management tools and techniques to organisational structures.
- He can now confidently apply principles from the perspectives of business in the development of a project plan having in mind the knowledge areas namely integration management, scope management, schedule management, budget/cost management, quality management, communication management, risk management, procurement management, human resources management, stakeholder management. And being able to monitor and track the projects with the relevant and appropriate tracking tools and techniques available.

7.6 GENERAL SKILLS, ACADEMIC SKILLS AND RESEARCH SKILLS DEVELOPMENT THROUGH MBA PROGRAM

7.6.1 RESEARCH SKILLS

- He now possesses the ability present and defend a research idea as to the relevance of it.
- He can now give more indebt knowledge on qualitative and quantitative approaches in terms of design and other applications and its appropriateness for the research.
- He has better knowledge in Selecting and appropriately applying previous research study evidence to support my overall research question.
- He has better knowledge in writing styles.
- Possess better understanding of the application of the principles governing the design of a research and the processes involved in carrying out a good quality academic research.
7.6.2 CRITICAL THINKING AND EVALUATION SKILLS

Critical thinking skills can be defined as the ability to make ‘logical judgements’ through ‘well-thought out’ reasoning “it is the appropriate use of reflective scepticism within the problem areas under reflection and knowing how and when to apply this reflective scepticism effectively requires, among other things, knowing something about the field in question” (McPeck, 1981, pp. 5-7).

The critical thinking strategies developed and applied by the auditor of this research are listed below as identified by DCU Student Learning Resources (2008).

- Reflection
- Rationality
- Self-Awareness
- Honesty
- Open-Mindedness
- Discipline
- Judgement

The researcher also gained and applied ‘intellectual behaviour’ during the program, the intellectual behaviour is a mixture of critical thinking and creative thinking, both being superior ways of thoughts are recommended for academic work. The figure below shows a diagram of the flow of intellectual behaviour in learning.

![Figure 6 Showing Six Levels of Intellectual Behaviour Important in Learning as Identified by Benjamin Bloom in 1956 (DCU Student Learning Resources, 2008).]
There are several levels of thinking:

- **Knowledge:** you demonstrate knowledge - things are memorised without necessarily having a full understanding e.g. listing, labelling, identifying, defining, etc.

- **Understanding:** you understand information enough to describe it in your own words e.g. explaining, summarising, describing, illustrating, etc.

- **Application:** you find some practical use for the information and use it to solve problems e.g. using, applying, solving, etc.

- **Analysis:** you break complex ideas into parts and see how the parts work together e.g. analysing, categorising, seeing patterns, comparing, contrasting, separating, (re)organising parts, etc.

- **Synthesis:** you make connections with things you already know e.g. creating, designing, inventing, developing, hypothesising, etc.

- **Evaluation:** you judge something’s worth e.g. judging, recommending, convincing, critiquing, justifying, etc.

### 7.6.3 ACADEMIC WRITING SKILLS

One of the skills the author developed is the skill of putting together an academic up in the form of essays such as opinions, justification, organisation, summary, conclusion. These all form the structure of the write up with the different components of the structure fulfilling a role to make a sense of the write up as outlined by Crawford School of Public Policy (2015) (Powell, 2013). They (Crawford School of Public Policy, 2015) went ahead to give outline the components of a critical review as listed below:

- **Introduction:** providing the background and context for the article and may include an abstract at the beginning just before the introduction.

- **Summary:** summarise the main argument, evidence, findings, conclusions, implications of the text.

- **Evaluation/Critique:** indicate the strengths, usefulness of text, indicate the weaknesses, limitations, problems of the text supported with evidence.
7.6.4 TIME MANAGEMENT SKILLS

The skill of time management was put to use in the research in order to track and monitor your progress through the research, having in mind there is a time limit to carry out this study, a time schedule was developed at the outset of the research start and had to be modified at different stages to make sure the schedule was still viable (modifications such as a catch up programme where time has been lost or where there were circumstance beyond your control e.g. not getting participants responding to your planned time frame) (Crawford School of Public Policy, 2015).

Understanding the time limitations of the research period (about 3 months) is another way of preparing and guides you through your research design; knowing what is feasible (realistic) and what is not (Federation University of Australia, 2014).

What was also developed was being able to prioritise in terms of deliverables, have to know when a task is due, and the level of importance attached to the task (it may be a significant task that leads you progress to another stage and without which, there would be little or no progress) (Crawford School of Public Policy, 2015).

7.6.5 PROFESSIONAL, ETHICAL AND LEADERSHIP SKILLS

One of the professional skills developed and applied for this research would be the ethical responsibility in carrying out the research, Some of them amongst other may include understanding plagiarism and avoiding it at all cost by referencing appropriately and avoid stealing of intellectual property, Another would be the conducting of interviews by being cautious, making sure they (participants) understand the legal requirements, having a sign consent form, an introduction letter for your research etc as can be found in Research Methods for Business Students (Saunders, Lewis, & Thornhill, 2016).
Also, the level of knowledge gain through the program, has given rise to a level of exposure and confidence that places one in the leadership hierarchy, this is why many people with an MBA are offered supervisory and management positions in organisations so as to be able to use their skills to tackle complex business issues.

7.7 CHALLENGES THROUGH MBA PROGRAM

The challenges experienced were as follows:

- Adapting to the weather and climatic conditions (temperate region) compared to the tropics (Africa) where he comes from.
- Fitting into the Irish Culture – Making some adjustments from your usual way of life and trying to understand the culture and way of life.
- Being away from family (Pregnant Wife and Child).
- Being away from home and the comfort of everything he has been used to.

7.8 APPLICATION OF LEARNING TO FUTURE AND CONCLUSION

The researcher, haven gone through the MBA program and dissertation with all the knowledge, experience and professional development gained could not but feel more confident with himself and better prepared for his professional future.

He now knows himself better in terms as his personalities, his social styles and how he can what is expected of him as a professional in attitude and composure.

With the level nine (9) management training background (base) which he now possesses, he can further develop it by applying the knowledge, tools and techniques acquired from his studies into the world out there. He is now better equipped to make informed decisions that can meet the managerial standards of any organisation.
8. BIBLIOGRAPHY


A Critical Assessment into the Inclusion of ‘Tracking Amortization of Advanced Payment’ as an Indicator for Project Performance


A Critical Assessment into the Inclusion of ‘Tracking Amortization of Advanced Payment’ as an Indicator for Project Performance


65. SCSI/PWC Construction Survey, 2017. Confidence Remains High Despite Challenges, Including Rising Costs, a skills deficit and Brexit, Ireland: PWC.


9. APPENDIXES

9.1 INTERVIEW REQUEST - COVER LETTER

Dear Potential Participant,

My name is Dickson Obimah; I am a Master of Business Administration student at the Dublin Business School working under the supervision of Paul Taaffe. As part of my programme I am carrying out a research project:  

Critically assess the inclusion of tracking “amortization of advanced payment” as an indicator for project performance in the Irish and UK construction industry.

I would like to invite you to participate in the above research project as you fall under the category of person(s) I aimed to getting the relevant information from in the pursuit of the research objectives.

If you agree and consent to the survey, you will be required to complete a consent form and return it to me on the day of the interview. You will also be asked to do either one of the following:

- Participate in an interview of an approximate duration of 20 to 30 minutes with me to answer questions regarding your experience of the above subject matter, the questions will be topic specific and not of a personal nature, and you will not be asked to reveal any information which your organisation would regard as sensitive and not for public disclosure. You also have the option of not answering questions that you do not feel comfortable with.

With your permission, interviews will be jotted down, or tape recorded then transcribed unto a computer system. You may review, edit or erase the transcript and tape recordings of your interview if you wish to do so, recordings will then be destroyed. Your response will be treated as confidential and computer transcripts will not contain references to any persons or organisations. Such references will be placed by codes only known to me and all data will be securely stored.

Once completed a summary of the result will be available at the conclusion of the academic year. If you wish to obtain a copy of the result, please provide a contact detail to be able to notify you on when and how to get it.

Thank you for your time to consider this survey and if you consider taking part in this research, I would like to extend my personal gratitude; your contribution is greatly appreciated.

Yours Faithfully,

Dickson Obimah,  
MBA General (10357753),  
Dublin Business School.
9.2 CONSENT LETTER

COST CONTROL SYSTEMS IN THE CONSTRUCTION INDUSTRY;
A Critical Assessment into the Inclusion of ‘Tracking Amortization of Advanced Payment’ as an Indicator for Project Performance.

CONSENT FORM

- I agree to participate in the above research project and give my consent freely.
- I understand that the project will be conducted as described in the “Information Sheet”, a copy of which I have retained
- I understand that I can withdraw from the project at any time and do not have to give a reason for withdrawing.
- I consent to participate in an interview with the researcher.
- I understand that my personal information will remain confidential to the researcher.
- I understand that my organization will not be identified either directly or indirectly.

Participant’s Name: __________________________ Signature: __________________________ Date: ___________

Student’s Name: __________________________ Signature: __________________________ Date: ___________

By signing above, you are agreeing that: (1) you have read and understood the Participant Information Sheet, (2) questions about your participation in this study have been answered satisfactorily, (3) you are aware of the potential risks (if any), and (4) you are taking part in this research study voluntarily (without coercion).
9.3 INTERVIEW QUESTIONS – SEMI STRUCTURED

Dublin Business School,
13/14 Aungier Street,
Dublin 2, D02 WC04,
Ireland.
T: + 353 (0) 1 4177500
F: + 353 (0) 1 4177543
dickson.obimah@gmail.com
10357753@mydbs.ie

Project Topic:

COST CONTROL SYSTEMS IN THE CONSTRUCTION INDUSTRY;
A critically assessment into the inclusion of tracking “amortization of advanced payment” as an indicator for project performance in the Irish and UK construction industry.

INTERVIEW QUESTIONS

1. Please what’s your name, position (designation) and How many years of experience have you in the industry?

2. What do you understand by the concept “Amortization of Advanced Payment”?

3. Is there a schedule drawn up for these amortization payments? How is it tracked? If so, how does it work? How is it managed?

4. Supposing other variables (such as time/schedule, change in scope of works, change in client requirements, additional works etc.) are well considered and taking into account, from your experience would there be, or have there been a relationship between the project status and the value amortized so far?

5. If so, what is or what seems to be the relationship

6. Could they be related directly supposing all variables were duly considered?

7. Do you think there would be exceptions e.g. form of contract type etc.

8. Please could you give your perspective on the inclusion of tracking amortization of advanced payment as a project status indicator.

9. How can this be imbedded to the project life cycle and project culture?

10. What could be the potential or drawbacks of associated with a new approach like this?

11. Considering the recent developments with construction companies’ liquidation within the UK and Irish construction industry, like the Carillion, Manley and Sammon, in your own view, what do you think is the problem.

Dickson Obimah,
MBA General (10357753),
Dublin Business School.