

References

- Armstrong M., *Human Resource Management Practice*, Kogan Page, Pp 251-269
- Ashworth A. (1999), *Cost Studies of Buildings*, Third Edition, Longman, Pp 31-33
- Akindele O.A. (2003), *Craftsmen and Labour Productivity in the Swaziland Construction Industry*, CIBD 1st Postgraduate Conference.
- Ahadzie D.K. (1995), *Factors Affecting Labour Productivity in the Construction Industry in Ghana: The Perception Of Consultants And Contractors*, Journal Of Building and Road Research Institute. Pp 22-32)
- Aynur and Serdar (2006), *Drivers Of Productivity Among Construction Workers: A Study In Developing Countries*, International Journal Of Project Managers, Vol. 42 Issue 5, Pp 2132-2140
- Borcharding J.D. (1978), *Factors Which Influence Productivity On Large Projects*, Journal of American Association of Cost Engineers.
- Bhalla A.S. and Edmonds G.A. (1983), *Construction Growth and Employment In Developing Countries*, Journal for the Study of Human Settlements, Vol. 7 No. 5/6., Pp 195-206.
- Berg G. and Magnus R. (1999), *How Leadership Affect Productivity*, Seattle Daily Journal.
- Bloisi W. et. al. (2003), *Management and Organizational Behavior*, McGraw-Hill, Pp 169-208
- Cartwright J. (1999), *Cultural Transformation*, Financial Times, Prentice Hall
- Chase G.W. (1993), *Effective total quality management (TQM) process for Construction*: Journal of Management in Engineering. Vol. 9 No. 4 Pp 433-443.
- Clarke R.H. and Morris J.R.(1980), *Workers' Attitude Towards Productivity. A Survey By The Chamber Of Commerce in The United States.*
- Daily Graphic: 20th August 2002, 1, 3
- Enshassi A. et al. (2007), *Factors Affecting Labour Productivity In Building Projects In The Gaza Strip*, Journal of Civil Engineering and Management, Vol. XIII, No. 4 Pp 245-254 .

- Gaissey R.G. (1993), *Effective Management: A Tool for Higher Productivity In Public Corporation*, MBA Thesis, (Unpublished)
- Heizer J and Render B. (1999), *Operations Management*, Fifth Edition Printice Hall. Pp 16-23, 392-403.
- Haskell P.H. (2004), *Construction Productivity: Its History and Future Direction*, America's Design-Build Leader White Paper.
- Halligan D. W. et al (1994), *Action-Response Model and Loss of Productivity in Construction*, Journal of Construction Engineering and management, Vol. 120 No.1
- Krietner R. et. al.(1999), *Organizational behavior*, First European edition, McGraw-Hill
- Kadir M.R.A. et al. (2005), *Factors Affecting Construction Labour Productivity For Malaysian Residential Projects*, Structural Survey Vol. 1, Pp 42-54
- Kazaz A. and Ulubeyli S.(2007), *Drivers Of Productivity Among Construction Workers: A Study In A Developing Country*, International Journal Of Project Managers, Vol. 22 Issue 2, Pp 2132-2140
- Kazaz A. et al (2008), *Effect Of Basic Motivational Factors On Construction Workforce Productivity in Turkey*, International Journal Of Civil Engineering and Management, Vol. 14 Issue 2, Pp 95-106
- Kaming P.F. et al. (1997), *what motivates construction craftsmen in developing Countries? A case study of Indonesia*, Building and Environment, Vol. 33 No. 3 Pp 131-141
- Lim E.C. and Alum J. (1995), *Construction Productivity: Issues Encountered By Contractors In Singapore*, International Journal Of Project Managers, Vol. 22 No.1, Pp 51-58
- Mullins L.J.(2005), *Management and Organizational Behavior*, Prentice Hall, Pp 471-514
- McCaffer R. and Harris F., *Modern Construction Management*, Blackwell Publishing, Pp. 118, 138
- Makulsawtudon A. and Emsley M. (2001), *Factors Affecting the Productivity Of The Construction Industry In Thailand: The Craftsmen 'S Perception*, COBRA Conference papers.


- Mitullah W. V. and Wachira I. N. (2003), *Informal Labour In The Construction Industry In Kenya: A Case Study Of Nairobi*, International Labour Office Working Paper Pp 1
- Mojahed Shahriyar (2005), *A Project Improvement System For Effective Management Of Construction Projects*, PHD Dissertation, (Unpublished)
- Management Encyclopedia (Internet)



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Appendix-A Questionnaire (To Be Completed by Worker)

The research is being undertaken by Mr. PDHD Gunawrdana, a final year MSc student in Construction Project Management. It is aimed at finding the factors that have lead to the decline in productivity facing the construction industry for the past decade and recommend strategies of motivation that will facilitate the improvement of productivity.

1. Address:..... Tele-Number-.....
2. Age:
3. Education level:
 - Not up to year eight
 - Up to year eight
 - O/L Examination
 - A/L Examination
4. Position  University of Moratuwa, Sri Lanka.
€ Foreman Electronic Theses & Dissertations
€ Mason www.lib.mrt.ac.lk
€ Steel bender
€ Carpenter
€ Plumber
5. Terms of employment
 - € Permanent
 - € Contract
 - € Casual
6. Skill Develop From
 - Family
 - Vocational Training Center
 - Youth Center
 - On site working

7. Below are factors that normally affect motivation and productivity at work in the construction industry. From your experience please rate the degree of effect of occurrence on your motivation as well as the degree of significance on your performance.

Tick once (✓) as appropriate the following:

- i) In order of effect in occurrence.
- ii) In order of degree of significance on productivity

•Effect :

1 = low;

2 = medium;

3 = high

•Significance:

1 = strongly not significant;

2 = not significant;

3 = average;

4 = Significant;

5 = Strongly significant



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S/N	Factors that affect on labour productivity	Effect			Significant					
		1	2	3	1	2	3	4	5	
	Organizational factors									
1	Material management (materials getting finish while working)									
2	Systematic flow of work									
3	Unrealistic deadline for project set by client (deadline that is not easy to attain)									
4	Supervision									
5	Inadequate site planning(site layout which leads to difficulty in movement)									
6	Occupational education or Employee training (Introduction into new ideas, further studies, workshops etc)									
7	Crew size and efficiency									
8	Firm reputation									
9	Camping conditions									
10	Late issuance of construction drawings									
11	Late payment of interim certificate									
12	Rework due to construction error (Making corrections on wrong work done)									
13	Inadequate site staff. (less labour for a task leading to excessive work load)									
14	Waiting for other crew (waiting for gang of different trade to finish before another can continue)									
15	Safety plans (Availability of first aid provision of safety kits etc)									
16	Orientation for new employee (Introduction to old staff, introduction into the policies of the company.)									
17	Constant disruption of work (Frequent changes in design and specifications)									
	Economic factors									
1	Salary (Pay, wage, etc)									
2	On-time payment									
3	Amount of pay or rate									
4	Working in social insurance									
5	Incentive payments and financial rewards									
6	Bonus at the end of project or year (showing appreciation at the end of the project and year)									
7	Overtime (Provision of extra money after normal working time)									

	Socio-psychological factors								
1	Work discipline								
2	Health and safety conditions								
3	Work satisfaction								
4	Creating competition								
5	Relations with workmates ,Teamwork (Everyone contributing in the work, all hands on deck)								
6	Giving responsibility								
7	Sharing problems and their results								
8	Social activity opportunities (Sports & Entertainment)								
9	Cultural differences								
10	Worker participation in decision making (Making suggestions)								
11	Distance from home								
12	Distance from population centers								
13	Love and belongingness								
14	Labour disloyalty /loyalty								
15	Job security (Permanent job, Job all the time, payment)								
16	Working with unqualified persons(working with incompetent and non-confidence workers)								
17	labour age								
18	Labour absenteeism								
19	Promotion (evaluation, example from mason to mason foreman)								
20	Disrespect from co-workers (use of abusive language from colleagues, impolite speeches etc)								
21	Communication (Easy flow of information, being well communicated)								
22	Opportunity to undertake challenging task (Being given goal to work towards it through your own directives)								
23	Identification with goal (Being honoured for a particular attained target)								
24	Congestion (overcrowding in a work area, improper site planning)								
25	Canteen for employee (Good food for free or at a reduced price)								
27	Medical care (Having a particular hospital to attend in case of illness or subsidising the cost of hospital bills)								
28	Accommodation (Provision of physical accommodation, package as subsidy to rent apartment)								
29	weather condition								
30	Transportation (allowance for transportation, transportation from a location to site and back)								
31	Work based on contract (Finish and go)								
32	Labour experience and skills								

වැඩ බලමිනි එළපයාමය මිනුම් කිරීම සඳහා පත්වන මාලාව


1. බිඳිනය:..... දුරකථන අංකය:.....
2. වයස :
3. අධ්‍යයන සුදුසුකම් :

අව වස පන්තිය දක්වා වත් අධ්‍යයන හොඳබිම	
අව වසට සමත්	
අපොස ස/පෙ	
අපොස උ/පෙ	

4. වෘත්තීය හා තොරතුරු

කමිකරු බාස් (Foreman)	
පෙදෙරේරු	
පාස්සුම් කරු	
වඩු කාර්මික	
සත්තු භූමා කරු	
විදුලි කාර්මික	

5. රැකියාවේ ස්භාවය

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කොන්ක්‍රීට්	
අතීතය	

6. කමිකරු පලපුරුද්ද සහ නිපුණතාවය ලබාගත් අනාංශ

පවුල් පසුබිමින්	
වෘත්තීය පාඨමාලා මගින්	
කරුණ සේවා මධ්‍යස්ථාන මගින්	
වැඩ විවිද පුහුණුව මගින්	

7. වැඩ බලමිනි එළපයාමය සඳහා පහත සඳහන් කරුණු බලපානු ලැබේ. ඔබගේ පලපුරුද්ද උපයෝගීකරගෙන පහත සඳහන් කරුණු ඔබ දකින ආකාරය පරිදි පහත උපදෙස් දී ඇති අයුරින්

- (✓) මෙම සලකුණු දී ඇති කරුණු ඉදිරියෙන් සලකනු සාරණ.
- i. කරුණ සිදුවන වාර ගතය හෝ එහි ඇති බලපෑම
 - ii. කරුණේ ඇති වැදගත් කම

බලපෑම

- 1 = අවම
- 2 = මධ්‍යම
- 3 = උසස්

වැදගත් කම

- 1 = නිශ්ච අයුරකින් වැදගත් නැත
- 2 = වැදගත් නැත
- 3 = සාමාන්‍ය
- 4 = වැදගත්
- 5 = ඉහත වැදගත්

9	සංස්කෘතික සහ පවුල් පසුබිම්වල ඇති වෙනස්කම්								
10	හිටපු ගැහිම් වලට සහභාගිවීමේ හැකියාව								
11	ගිවෙස් ගිව ඇති දුර								
12	සනාභිථයා ප්‍රදේශ වල සිට වැඩබිමට ඇති දුර								
13	ආදරය හා සරැහැව								
14	සේවකයන්ගේ අවංක බව								
15	රැකියාවේ ස්භාවය (ගාමනාදික/ගිතන)								
16	අඩු පලපුරුද්ද ඇති පිරිස් සමඟ වැඩ කිරීමේ හැකියාව								
17	සේවකයන්ගේ වයස								
18	සේවකයන්ගේ භෞපැම්කම් සහ වැඩබිම අනන්‍යතා යාම								
19	සේවකයන්ගේ ලබා දෙන උසස්වීම්								
20	සේවකයන්ගේ අභ්‍යන්තර වන ආකාරයෙන් ක්‍රියා කිරීම								
21	සේවකයන් සමඟ ඉහා හොඳ සන්නිවේදන ක්‍රමයක් තිබීම								
22	අතිරේකයන්ට ඉහා දීමේ හැකියාව								
23	අරමුණු හඳුනාගැනීමේ හැකියාව								
24	වැඩබිමෙහි ඇති අවහිරතාවයන්								
25	කම්කරුවන් සඳහා ඉහා හොඳ සුභසාදන ආපනශාලා පහසුකම්								
27	ඉහා හොඳ භෞතික ආරක්‍ෂණ පහසුකම්								
28	කම්කරුවන් සඳහා වැඩබිමෙහි ඉහා හොඳ සේවාසිතා පහසුකම්								
29	සාලගුණික තත්වය								
30	ප්‍රවාහන පහසුකම්								
31	වැඩ අවසාන වීමෙන් පසු විවේක සුවසේ තහනම්ව ඇති හැකියාව								
32	කම්කරු පලපුරුද්ද සහ නිපුණතාවය								



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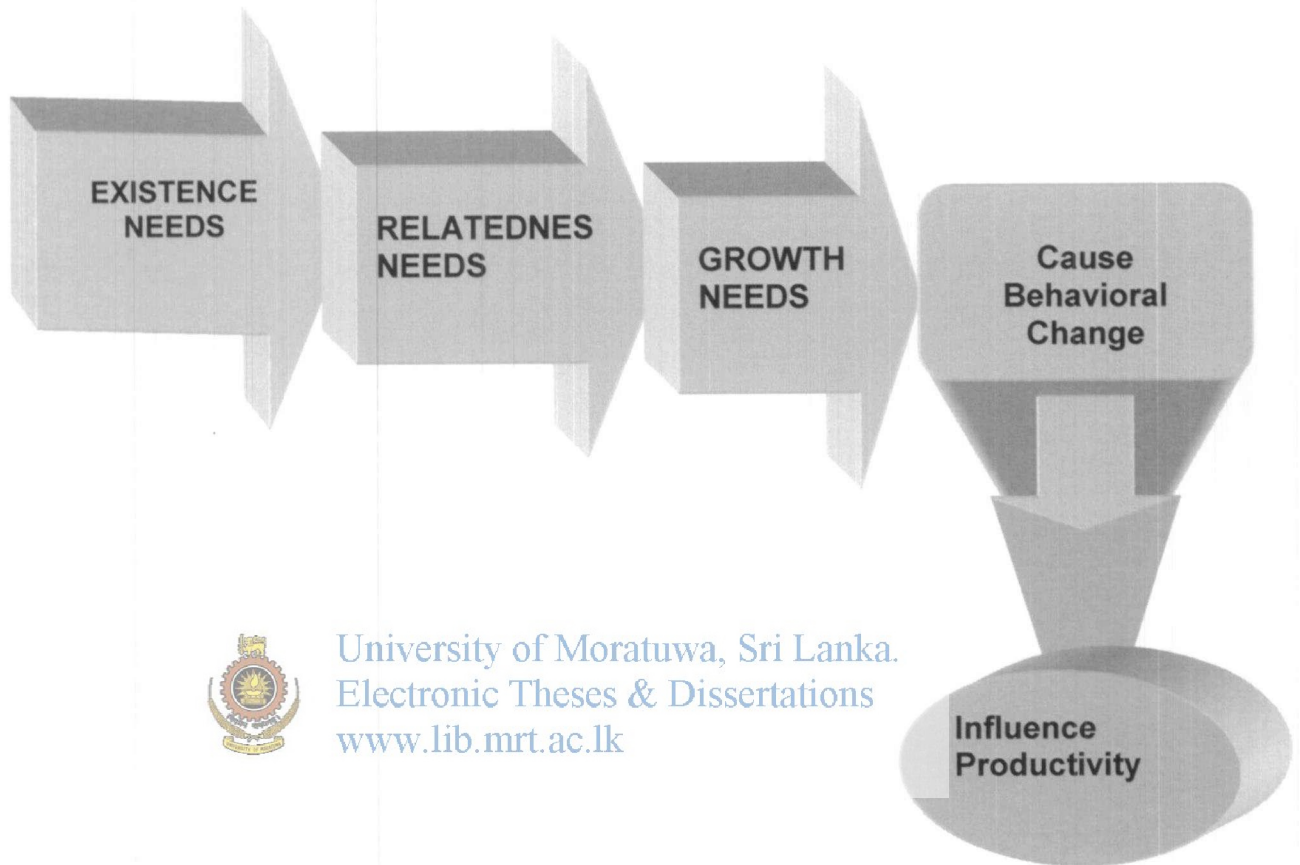
Appendix-C Herzberg's Dual Factor Theory Model



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Appendix-D: Alderfer Need Modified Theory Model



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