Name	Description	Remarks
No	Number of the investigated	Data type: Numeric
	projects	Accepetable values: Po to
		P78
Psize code	Project Size code	Data type: Numeric
		Accepetable values:
		1 - below HK\$50 million
		2 - HK\$50-200 million
		3 - HK\$200-1000 million
		4 - above HK\$1000 million
PType code	Project Type code	Data type: Numeric
		Accepetable values:
		1 - residential
		2 – commercial
		3 – educational
		4 - sporting
		5 – hospital
		6 – transportation
		7 – industrial
		8 – others
PNat code	Project Nature code	Data type: Numeric
		Accepetable values:
		o - private project
		1 - public project
BOC	whether client/owner has	Data type: Numeric
	been involved in BIM	Accepetable values:
	implementation in the	0 - No
	investigated project	1 - Yes
BOD	whether designer has been	Data type: Numeric
	involved in BIM	Accepetable values:
	implementation in the	o - No
DOG	investigated project	1 - Yes
BOG	whether general contractor	Data type: Numeric
	has been involved in BIM	Accepetable values:
	implementation in the	0 - No
ROG	investigated project	1 - Yes
BOS	whether subcontractors has	Data type: Numeric
	been involved in BIM	Accepetable values:
	implementation in the investigated project	0 - No 1 - Yes
ВОТ		
	whether BIM consultant has been involved in BIM	Data type: Numeric
		Accepetable values: o - No
	1	
	investigated project	1 - Yes

BOO	whether others has been	Data type: Numeric
600	involved in BIM	Accepetable values:
		-
	implementation in the	0 - No
	investigated project	1 - Yes
Isomorphic pressures	three variables of	Data type: Text
	isomorphic pressures are	Accepetable values:
	included: Coercive	CP1
	pressures (CP), Mimetic	MP1
	pressures (MP), and	MP2
	Normative pressures (NP)	NP1
		NP2
		NP3
CP1 code	Government agencies	Data type: Numeric
	required this project to use	Accepetable values:
	BIM; This reflects the	1 –strongly disagree
	authoritative influences of	2 –disagree
	government agencies on	3 – slightly disagree
	project BIM	4 – neutral
	implementation	5 –slightly agree
	-	6 - agree
		7 - strongly agree
MP1 code	Peer projects in Hong Kong	
	had benefitted greatly	Accepetable values:
	through using BIM	1 –strongly disagree
		2 –disagree
		3 – slightly disagree
		4 – neutral
		5 –slightly agree
		6 - agree
		7 - strongly agree
MP2 code	Peer projects in Hong Kong	Data type: Numeric
	had gained good reputations	Accepetable values:
	in the industry through using	1 –strongly disagree
	BIM	2 –disagree
		Ū.
		3 – slightly disagree
		4 – neutral
		5 –slightly agree
		6 - agree
		7 - strongly agree
NP1 code	Software vendors strongly	Data type: Numeric
	advocated the use of BIM in	Accepetable values:
	this type of projects	1 –strongly disagree
		2 –disagree
		3 – slightly disagree

		4 moutual
		4 – neutral
		5 –slightly agree
		6 - agree
		7 - strongly agree
NP2 code	Industry consultants	Data type: Numeric
	strongly advocated the use of	Accepetable values:
	BIM in this type of projects	1 –strongly disagree
		2 –disagree
		3 – slightly disagree
		4 – neutral
		5 –slightly agree
		6 - agree
		7 - strongly agree
NP3 code	Industry associations	Data type: Numeric
	strongly propagated the	Accepetable values:
	value of BIM in this type of	1 –strongly disagree
	projects	2 –disagree
		3 – slightly disagree
		4 – neutral
		5 –slightly agree
		6 - agree
		7 - strongly agree
COS	client owners support	Data type: Text
		Accepetable values:
		COS1
		COS2
		COS3
COS1 code	The project client had	Data type: Numeric
	invested substantial	Accepetable values:
	resources in BIM use in this	1 –strongly disagree
	project	2 –disagree
		3 – slightly disagree
		4 – neutral
		5 –slightly agree
		6 - agree
		7 - strongly agree
COS2 code	The project client regarded	Data type: Numeric
	BIM use as a priority of	Accepetable values:
	project activities	1 –strongly disagree
		2 –disagree
		3 – slightly disagree
		4 – neutral
		5 –slightly agree
		6 - agree

		7 - strongly agree
COS3 code	The project client had put	Data type: Numeric
-	much effort in driving	Accepetable values:
	project participating	1 –strongly disagree
	organizations to	2 –disagree
	collaboratively use BIM	3 – slightly disagree
	_	4 – neutral
		5 –slightly agree
		6 - agree
		7 - strongly agree
BA	BIM application areas that	Data type: Text
	used in three main project	Accepetable values:
	phase: Design phase,	BIA1
	Construction phase, and	BIA2
	Design or construction phase	BIA3
		BIA4
		BIA5
		BIA6
		BIA7
		BIA8
		BIA9
		BIA10
		BIA11
		BIA12
		BIA13
BIA1 code	Design Authoring area:	Data type: Numeric
	Utilize BIM software to	Accepetable values:
	design and three-	0 – not used
	dimensionally (3D)	1 – some use
	represent different building	2 – extensive use
	systems of the project	N - notclear
BIA2 code	Design Reviews area:	Data type: Numeric
	Related stakeholders review	Accepetable values:
	BIM models to provide	o – not used
	feedbacks and to validate	1 – some use
	related details of the	2 – extensive use
	proposed design	N - notclear
BIA3 code	Existing Conditions	Data type: Numeric
	Modelling area: Develop a	Accepetable values:
	3D model of the existing site	o – not used
	conditions with the help of	
	laser scanning or	2 – extensive use
	conventional survey	N - notclear
	methods	

BIA4 code	Site Analyzia in the Design	Data trma: Numaria
BIA4 code	Site Analysis in the Design Phase area: Utilize BIM	Data type: Numeric
		Accepetable values:
	and GIS tools to evaluate a	o – not used
	given site to determine the	1 – some use
	optimal location, position	2 – extensive use
	and orientation for the	N - notclear
	project	
BIA5 code	Facility Energy Analysis	Data type: Numeric
	area: Utilize BIM models and	Accepetable values:
	energy simulation programs	o – not used
	to conduct energy	1 – some use
	assessments for the	2 – extensive use
	proposed design	N - notclear
BIA6 code	Other Engineering Analysis	Data type: Numeric
	area: Utilize BIM models and	Accepetable values:
	analytical software to assess	o – not used
	other performance (e.g.,	1 – some use
	structural safety, acoustics)	2 – extensive use
	of the proposed design	N - notclear
BIA7 code	Phase Planning (4D	Data type: Numeric
	Modelling) area: Develop 4D	Accepetable values:
	models based on schedule	o – not used
	information to visualize and	1 – some use
	analyze the sequence of	2 – extensive use
	construction activities	N - notclear
BIA8 code	Site Utilization Planning	Data type: Numeric
	area: Utilize BIM models to	Accepetable values:
	graphically represent	o – not used
	permanent and temporary	1 – some use
	on-site facilities to plan	2 – extensive use
	effective utilizations of the	N - notclear
	construction site	
BIA9 code	3D Control and Planning	Data type: Numeric
	area: Utilize BIM models to	Accepetable values:
	create detailed control points	o – not used
	for the layout of construction	1 – some use
	assemblies (e.g., walls) and	2 – extensive use
	the movement of equipment	N - notclear
BIA10 code	Digital Fabrication area:	Data type: Numeric
	Utilize digitized information	Accepetable values:
	in BIM models to facilitate	0 - not used
	the off-site fabrication of	1 – some use
	construction assemblies	2 - extensive use
	(e.g., walls, stairs)	N - notclear
	(c.g., wans, stans)	n - notcieal

BIA11 code	As-Built Modelling area:	Data type: Numeric
	Create a post-construction	Accepetable values:
	record model to accurately	-
	represent the physical	1 – some use
	conditions, environment,	2 – extensive use
	and assets of the constructed	N - notclear
	facility	
BIA12 code	Cost Estimation and	Data type: Numeric
	Quantity Take-Off area:	Accepetable values:
	Utilize BIM models to	0 – not used
	generate accurate quantity	1 – some use
	take-offs and cost estimates	2 – extensive use
		N - notclear
BIA13 code	3D Coordination area:	Data type: Numeric
	Utilize clash detection	Accepetable values:
	software to identify and	0 – not used
	coordinate field conflicts by	1 – some use
	analyzing 3D models of	2 – extensive use
	different building systems	N - notclear