

CORE CONCEPTS MANAGERIAL ACCOUNTING

CORE CONCEPTS MANAGERIAL ACCOUNTING ARE THE BEDROCK OF EFFECTIVE BUSINESS DECISION-MAKING AND STRATEGIC PLANNING. UNLIKE FINANCIAL ACCOUNTING, WHICH FOCUSES ON EXTERNAL REPORTING, MANAGERIAL ACCOUNTING PROVIDES INTERNAL INSIGHTS TO HELP MANAGERS UNDERSTAND THEIR OPERATIONS, CONTROL COSTS, AND DRIVE PROFITABILITY. THIS ARTICLE WILL DELVE INTO THE FUNDAMENTAL PRINCIPLES AND KEY COMPONENTS THAT DEFINE THIS CRUCIAL BUSINESS DISCIPLINE, EXPLORING HOW THESE CONCEPTS EMPOWER ORGANIZATIONS TO NAVIGATE COMPLEX ENVIRONMENTS AND ACHIEVE THEIR OBJECTIVES. WE'LL UNPACK THE NUANCES OF COST BEHAVIOR, BUDGETING, PERFORMANCE EVALUATION, AND STRATEGIC COST MANAGEMENT, OFFERING A COMPREHENSIVE UNDERSTANDING OF HOW MANAGERIAL ACCOUNTING FUNCTIONS AS AN INDISPENSABLE TOOL FOR BUSINESS SUCCESS.

TABLE OF CONTENTS

UNDERSTANDING THE ROLE OF MANAGERIAL ACCOUNTING

KEY CORE CONCEPTS IN MANAGERIAL ACCOUNTING

COST BEHAVIOR AND CLASSIFICATION

COST ALLOCATION AND ABSORPTION

BUDGETING AND PLANNING

PERFORMANCE MEASUREMENT AND EVALUATION

DECISION MAKING AND RELEVANT COSTS

STRATEGIC COST MANAGEMENT

INNOVATIONS IN MANAGERIAL ACCOUNTING

UNDERSTANDING THE ROLE OF MANAGERIAL ACCOUNTING

MANAGERIAL ACCOUNTING IS THE ENGINE THAT POWERS INFORMED DECISIONS WITHIN AN ORGANIZATION. ITS PRIMARY PURPOSE IS TO PROVIDE RELEVANT, TIMELY, AND ACCURATE FINANCIAL AND OPERATIONAL INFORMATION TO MANAGERS AT ALL LEVELS. THIS INFORMATION IS NOT BOUND BY THE STRICT RULES OF EXTERNAL REPORTING; INSTEAD, IT'S TAILORED TO THE SPECIFIC NEEDS OF INTERNAL USERS, ENABLING THEM TO PLAN, CONTROL, AND MAKE STRATEGIC CHOICES. THINK OF IT AS THE COCKPIT OF AN AIRPLANE – THE PILOTS (MANAGERS) NEED DETAILED, REAL-TIME DATA ABOUT ENGINE PERFORMANCE, FUEL LEVELS, AND FLIGHT PATH TO NAVIGATE SAFELY AND EFFICIENTLY. WITHOUT THIS INTERNAL PERSPECTIVE, BUSINESSES WOULD BE FLYING BLIND, REACTING TO EVENTS RATHER THAN PROACTIVELY SHAPING THEIR FUTURE.

THE SCOPE OF MANAGERIAL ACCOUNTING IS BROAD, ENCOMPASSING A WIDE ARRAY OF ACTIVITIES. IT HELPS IN UNDERSTANDING THE PROFITABILITY OF PRODUCTS OR SERVICES, THE EFFICIENCY OF PRODUCTION PROCESSES, AND THE FINANCIAL IMPLICATIONS OF VARIOUS STRATEGIC INITIATIVES. BY PROVIDING THESE CRITICAL INSIGHTS, MANAGERIAL ACCOUNTING DIRECTLY CONTRIBUTES TO A COMPANY'S COMPETITIVE ADVANTAGE AND LONG-TERM SUSTAINABILITY. IT'S ABOUT MORE THAN JUST NUMBERS; IT'S ABOUT TRANSLATING THOSE NUMBERS INTO ACTIONABLE INTELLIGENCE THAT DRIVES PERFORMANCE AND FOSTERS GROWTH.

KEY CORE CONCEPTS IN MANAGERIAL ACCOUNTING

AT ITS HEART, MANAGERIAL ACCOUNTING REVOLVES AROUND A FEW FUNDAMENTAL PRINCIPLES THAT GUIDE ITS APPLICATION. THESE CONCEPTS ARE INTERCONNECTED, FORMING A COHESIVE FRAMEWORK FOR UNDERSTANDING AND MANAGING BUSINESS OPERATIONS. MASTERY OF THESE CORE IDEAS IS ESSENTIAL FOR ANYONE LOOKING TO LEVERAGE THE POWER OF INTERNAL ACCOUNTING INFORMATION.

COST BEHAVIOR AND CLASSIFICATION

UNDERSTANDING HOW COSTS BEHAVE IS PERHAPS THE MOST FUNDAMENTAL CONCEPT IN MANAGERIAL ACCOUNTING. COSTS CAN

CHANGE IN DIFFERENT WAYS DEPENDING ON THE LEVEL OF ACTIVITY, AND CLASSIFYING THEM CORRECTLY IS CRUCIAL FOR ACCURATE FORECASTING AND DECISION-MAKING. THIS CLASSIFICATION HELPS MANAGERS PREDICT COSTS AT VARIOUS PRODUCTION OR SALES VOLUMES, WHICH IS VITAL FOR BUDGETING AND PRICING STRATEGIES.

THERE ARE THREE PRIMARY CLASSIFICATIONS OF COSTS BASED ON THEIR BEHAVIOR: FIXED COSTS, VARIABLE COSTS, AND MIXED COSTS. FIXED COSTS REMAIN CONSTANT IN TOTAL, REGARDLESS OF THE LEVEL OF ACTIVITY WITHIN A RELEVANT RANGE. THINK OF RENT FOR A FACTORY – WHETHER YOU PRODUCE ONE UNIT OR A THOUSAND, THE MONTHLY RENT PAYMENT STAYS THE SAME. VARIABLE COSTS, ON THE OTHER HAND, CHANGE IN TOTAL DIRECTLY AND PROPORTIONALLY WITH THE LEVEL OF ACTIVITY. FOR EXAMPLE, DIRECT MATERIALS USED IN PRODUCTION WOULD INCREASE AS MORE UNITS ARE MANUFACTURED. MIXED COSTS, AS THE NAME SUGGESTS, HAVE BOTH A FIXED AND A VARIABLE COMPONENT. A UTILITY BILL MIGHT HAVE A FIXED MONTHLY SERVICE CHARGE PLUS A VARIABLE CHARGE BASED ON USAGE.

ANOTHER IMPORTANT CLASSIFICATION IS INTO PRODUCT COSTS AND PERIOD COSTS. PRODUCT COSTS ARE THOSE ASSOCIATED WITH THE MANUFACTURING OF A PRODUCT AND ARE INVENTORIED UNTIL THE PRODUCT IS SOLD. THESE INCLUDE DIRECT MATERIALS, DIRECT LABOR, AND MANUFACTURING OVERHEAD. PERIOD COSTS, CONVERSELY, ARE EXPENSED IN THE PERIOD THEY ARE INCURRED AND ARE NOT ATTACHED TO SPECIFIC PRODUCTS. EXAMPLES INCLUDE SELLING EXPENSES, ADMINISTRATIVE EXPENSES, AND RESEARCH AND DEVELOPMENT COSTS. THIS DISTINCTION IS CRITICAL FOR INVENTORY VALUATION AND FOR CALCULATING THE COST OF GOODS SOLD.

COST ALLOCATION AND ABSORPTION

COST ALLOCATION IS THE PROCESS OF ASSIGNING INDIRECT COSTS TO COST OBJECTS, SUCH AS PRODUCTS, SERVICES, OR DEPARTMENTS. MANY COSTS INCURRED BY A BUSINESS CANNOT BE DIRECTLY TRACED TO A SPECIFIC PRODUCT OR SERVICE; THESE ARE KNOWN AS INDIRECT COSTS OR OVERHEAD. MANAGERIAL ACCOUNTANTS DEVELOP SYSTEMATIC METHODS TO ASSIGN THESE OVERHEAD COSTS IN A LOGICAL AND EQUITABLE MANNER.

ABSORPTION COSTING, A COMMON METHOD, ASSIGNS ALL MANUFACTURING COSTS, BOTH DIRECT AND INDIRECT (INCLUDING FIXED MANUFACTURING OVERHEAD), TO THE PRODUCTS BEING MANUFACTURED. THIS IS OFTEN REQUIRED FOR EXTERNAL FINANCIAL REPORTING. HOWEVER, FOR INTERNAL DECISION-MAKING, VARIABLE COSTING MIGHT BE PREFERRED. VARIABLE COSTING ONLY ASSIGNS VARIABLE MANUFACTURING COSTS TO PRODUCTS, TREATING FIXED MANUFACTURING OVERHEAD AS A PERIOD COST. THIS APPROACH CAN PROVIDE A CLEARER PICTURE OF THE PROFITABILITY OF INDIVIDUAL UNITS AND IS PARTICULARLY USEFUL WHEN ANALYZING SHORT-TERM PRICING OR PRODUCTION DECISIONS.

BUDGETING AND PLANNING

BUDGETING IS A CORNERSTONE OF MANAGERIAL ACCOUNTING, SERVING AS A FINANCIAL ROADMAP FOR THE ORGANIZATION. A BUDGET IS A DETAILED PLAN THAT OUTLINES EXPECTED REVENUES AND EXPENDITURES FOR A SPECIFIC PERIOD, TYPICALLY A YEAR. IT TRANSLATES THE ORGANIZATION'S STRATEGIC GOALS INTO MEASURABLE FINANCIAL TARGETS.

THE BUDGETING PROCESS INVOLVES SEVERAL STEPS, FROM FORECASTING SALES AND EXPENSES TO COORDINATING THE EFFORTS OF VARIOUS DEPARTMENTS. DIFFERENT TYPES OF BUDGETS EXIST, SUCH AS THE MASTER BUDGET, WHICH IS A COMPREHENSIVE SET OF INTERCONNECTED BUDGETS INCLUDING THE SALES BUDGET, PRODUCTION BUDGET, DIRECT MATERIALS BUDGET, DIRECT LABOR BUDGET, MANUFACTURING OVERHEAD BUDGET, SELLING AND ADMINISTRATIVE EXPENSE BUDGET, AND THE BUDGETED INCOME STATEMENT AND BALANCE SHEET. OPERATIONAL BUDGETS FOCUS ON THE DAY-TO-DAY ACTIVITIES, WHILE FINANCIAL BUDGETS DEAL WITH CASH FLOWS AND FINANCIAL POSITION. BUDGETS ARE NOT JUST STATIC DOCUMENTS; THEY ARE DYNAMIC TOOLS USED FOR PLANNING, CONTROL, AND MOTIVATION.

PERFORMANCE MEASUREMENT AND EVALUATION

MANAGERIAL ACCOUNTING PROVIDES THE DATA NEEDED TO EVALUATE THE PERFORMANCE OF INDIVIDUALS, DEPARTMENTS, AND

THE ORGANIZATION AS A WHOLE. THIS INVOLVES COMPARING ACTUAL RESULTS AGAINST THE BUDGETED FIGURES AND ANALYZING ANY VARIANCES. VARIANCE ANALYSIS HELPS MANAGERS IDENTIFY AREAS OF UNDERPERFORMANCE OR OVERPERFORMANCE, UNDERSTAND THE UNDERLYING REASONS, AND TAKE CORRECTIVE ACTIONS.

KEY PERFORMANCE INDICATORS (KPIs) ARE OFTEN USED IN CONJUNCTION WITH FINANCIAL DATA. THESE MIGHT INCLUDE MEASURES OF EFFICIENCY, QUALITY, CUSTOMER SATISFACTION, OR EMPLOYEE PRODUCTIVITY. BY TRACKING THESE METRICS, MANAGERS CAN GAIN A HOLISTIC VIEW OF PERFORMANCE BEYOND JUST PROFITABILITY. RESPONSIBILITY ACCOUNTING IS A SYSTEM WHERE EACH SEGMENT OF THE ORGANIZATION IS HELD RESPONSIBLE FOR THE REVENUES, COSTS, AND/OR INVESTMENTS UNDER ITS CONTROL. THIS CAN INCLUDE COST CENTERS, PROFIT CENTERS, AND INVESTMENT CENTERS, EACH WITH SPECIFIC PERFORMANCE MEASURES.

DECISION MAKING AND RELEVANT COSTS

ONE OF THE MOST CRITICAL APPLICATIONS OF MANAGERIAL ACCOUNTING IS IN SUPPORTING DECISION-MAKING. MANAGERS CONSTANTLY FACE CHOICES, FROM WHETHER TO ACCEPT A SPECIAL ORDER TO WHETHER TO OUTSOURCE A PARTICULAR FUNCTION. MANAGERIAL ACCOUNTING HELPS BY IDENTIFYING RELEVANT COSTS AND REVENUES – THOSE THAT DIFFER BETWEEN ALTERNATIVES.

SUNK COSTS, WHICH ARE COSTS THAT HAVE ALREADY BEEN INCURRED AND CANNOT BE RECOVERED, ARE IRRELEVANT TO FUTURE DECISIONS. LIKEWISE, COMMON FIXED COSTS THAT ARE NOT AVOIDABLE BY CHOOSING ONE ALTERNATIVE OVER ANOTHER ARE ALSO IRRELEVANT. FOCUSING ON DIFFERENTIAL COSTS AND BENEFITS ENSURES THAT DECISIONS ARE BASED ON INFORMATION THAT TRULY MATTERS FOR THE OUTCOME. FOR EXAMPLE, WHEN DECIDING WHETHER TO ACCEPT A SPECIAL ORDER AT A PRICE BELOW NORMAL SELLING PRICE, A MANAGER WOULD CONSIDER ONLY THE INCREMENTAL COSTS AND REVENUES ASSOCIATED WITH THAT ORDER.

STRATEGIC COST MANAGEMENT

STRATEGIC COST MANAGEMENT EXTENDS BEYOND TRADITIONAL COST ACCOUNTING TO INTEGRATE COST INFORMATION INTO THE ORGANIZATION'S OVERALL STRATEGY. IT INVOLVES ANALYZING COSTS THROUGHOUT THE ENTIRE VALUE CHAIN, FROM PRODUCT DESIGN AND DEVELOPMENT TO CUSTOMER SERVICE AND DISPOSAL. THE GOAL IS TO IDENTIFY OPPORTUNITIES TO REDUCE COSTS OR IMPROVE VALUE IN WAYS THAT ENHANCE THE COMPANY'S COMPETITIVE POSITION.

TECHNIQUES LIKE ACTIVITY-BASED COSTING (ABC) ARE CRUCIAL HERE. ABC ASSIGNS OVERHEAD COSTS TO PRODUCTS AND SERVICES BASED ON THE ACTIVITIES THEY CONSUME, PROVIDING A MORE ACCURATE UNDERSTANDING OF COST DRIVERS THAN TRADITIONAL METHODS. VALUE CHAIN ANALYSIS HELPS MANAGERS UNDERSTAND WHERE COSTS ARE INCURRED AND HOW THEY CAN BE MANAGED TO CREATE COMPETITIVE ADVANTAGE. TARGET COSTING IS ANOTHER STRATEGIC TOOL WHERE A DESIRED PROFIT MARGIN IS SET, AND THEN COSTS ARE ENGINEERED TO MEET THAT TARGET.

INNOVATIONS IN MANAGERIAL ACCOUNTING

THE FIELD OF MANAGERIAL ACCOUNTING IS NOT STATIC. IT CONTINUES TO EVOLVE IN RESPONSE TO TECHNOLOGICAL ADVANCEMENTS, CHANGING BUSINESS MODELS, AND THE INCREASING COMPLEXITY OF THE GLOBAL MARKETPLACE. MODERN MANAGERIAL ACCOUNTING INCREASINGLY INTEGRATES NON-FINANCIAL INFORMATION AND LEVERAGES SOPHISTICATED ANALYTICAL TOOLS.

THE RISE OF BIG DATA AND ADVANCED ANALYTICS IS TRANSFORMING HOW MANAGERIAL ACCOUNTANTS GATHER AND INTERPRET INFORMATION. FURTHERMORE, THE ADOPTION OF ENTERPRISE RESOURCE PLANNING (ERP) SYSTEMS STREAMLINES DATA COLLECTION AND REPORTING, PROVIDING MORE INTEGRATED VIEWS OF OPERATIONS. SUSTAINABILITY REPORTING AND ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) CONSIDERATIONS ARE ALSO BECOMING INCREASINGLY IMPORTANT, REQUIRING MANAGERIAL ACCOUNTANTS TO DEVELOP NEW FRAMEWORKS FOR MEASURING AND REPORTING ON THESE CRITICAL AREAS. THE

EMPHASIS IS SHIFTING TOWARDS A MORE FORWARD-LOOKING, STRATEGIC ROLE, WHERE MANAGERIAL ACCOUNTING IS A PROACTIVE PARTNER IN DRIVING BUSINESS SUCCESS AND INNOVATION.

A WELL-STRUCTURED MANAGERIAL ACCOUNTING SYSTEM, BUILT ON THESE CORE CONCEPTS, PROVIDES THE ESSENTIAL INSIGHTS THAT EMPOWER LEADERS TO STEER THEIR ORGANIZATIONS THROUGH TURBULENT ECONOMIC WATERS AND TOWARDS SUSTAINED PROSPERITY. IT'S THE INTERNAL COMPASS THAT GUIDES EFFECTIVE STRATEGY EXECUTION AND OPERATIONAL EXCELLENCE.

FAQ

Q: WHAT IS THE PRIMARY DIFFERENCE BETWEEN FINANCIAL ACCOUNTING AND MANAGERIAL ACCOUNTING?

A: THE PRIMARY DIFFERENCE LIES IN THEIR AUDIENCE AND PURPOSE. FINANCIAL ACCOUNTING IS FOCUSED ON PROVIDING FINANCIAL INFORMATION TO EXTERNAL STAKEHOLDERS SUCH AS INVESTORS, CREDITORS, AND REGULATORS, AND IT ADHERES TO GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (GAAP) OR INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS). MANAGERIAL ACCOUNTING, ON THE OTHER HAND, IS DESIGNED FOR INTERNAL DECISION-MAKING BY MANAGERS AND IS NOT BOUND BY EXTERNAL RULES, ALLOWING FOR MORE FLEXIBILITY IN TERMS OF CONTENT, FORMAT, AND TIMING.

Q: HOW DOES UNDERSTANDING COST BEHAVIOR HELP IN BUSINESS DECISIONS?

A: UNDERSTANDING COST BEHAVIOR – WHETHER COSTS ARE FIXED, VARIABLE, OR MIXED – IS CRUCIAL FOR ACCURATE FORECASTING, PRICING, AND BUDGETING. FOR EXAMPLE, KNOWING THAT DIRECT MATERIALS ARE A VARIABLE COST HELPS MANAGERS PREDICT THE TOTAL MATERIAL COST FOR A GIVEN PRODUCTION VOLUME. THIS KNOWLEDGE ALSO INFORMS DECISIONS ABOUT BREAK-EVEN POINTS, PROFITABILITY ANALYSIS, AND RESOURCE ALLOCATION, ENABLING MANAGERS TO MAKE MORE INFORMED CHOICES ABOUT OPERATIONAL EFFICIENCY AND PRICING STRATEGIES.

Q: WHAT IS THE SIGNIFICANCE OF VARIANCE ANALYSIS IN MANAGERIAL ACCOUNTING?

A: VARIANCE ANALYSIS IS A KEY CONTROL MECHANISM IN MANAGERIAL ACCOUNTING. IT INVOLVES COMPARING ACTUAL RESULTS TO PLANNED OR BUDGETED FIGURES AND INVESTIGATING ANY SIGNIFICANT DIFFERENCES (VARIANCES). THIS PROCESS HELPS MANAGERS IDENTIFY WHY PERFORMANCE DEVIATED FROM EXPECTATIONS, WHETHER IT WAS DUE TO INEFFICIENCIES, CHANGES IN MARKET CONDITIONS, OR OTHER FACTORS. BY UNDERSTANDING THESE VARIANCES, MANAGERS CAN TAKE CORRECTIVE ACTIONS, IMPROVE FUTURE PLANNING, AND HOLD RESPONSIBLE PARTIES ACCOUNTABLE.

Q: CAN YOU EXPLAIN THE CONCEPT OF RELEVANT COSTS IN THE CONTEXT OF DECISION-MAKING?

A: RELEVANT COSTS ARE FUTURE COSTS THAT DIFFER BETWEEN TWO OR MORE ALTERNATIVE COURSES OF ACTION. ONLY RELEVANT COSTS AND REVENUES SHOULD BE CONSIDERED WHEN MAKING BUSINESS DECISIONS. THIS MEANS THAT SUNK COSTS (COSTS ALREADY INCURRED AND UNRECOVERABLE) AND COMMON FIXED COSTS THAT ARE NOT AFFECTED BY THE DECISION ARE IRRELEVANT. FOR INSTANCE, WHEN DECIDING WHETHER TO MAKE A COMPONENT IN-HOUSE OR BUY IT FROM AN EXTERNAL SUPPLIER, ONLY THE INCREMENTAL COSTS THAT DIFFER BETWEEN THE TWO OPTIONS ARE RELEVANT.

Q: WHAT IS ACTIVITY-BASED COSTING (ABC), AND HOW DOES IT DIFFER FROM TRADITIONAL COSTING?

A: ACTIVITY-BASED COSTING (ABC) IS A COSTING METHOD THAT IDENTIFIES ACTIVITIES IN AN ORGANIZATION AND ASSIGNS THE COST OF EACH ACTIVITY TO ALL PRODUCTS AND SERVICES THAT USE THE ACTIVITY. IT DIFFERS FROM TRADITIONAL COSTING METHODS, WHICH OFTEN ALLOCATE OVERHEAD BASED ON A SINGLE VOLUME-BASED DRIVER (LIKE DIRECT LABOR HOURS OR MACHINE HOURS). ABC PROVIDES A MORE ACCURATE ALLOCATION OF INDIRECT COSTS BY TRACING COSTS TO SPECIFIC

ACTIVITIES AND THEN TO COST OBJECTS BASED ON THEIR CONSUMPTION OF THOSE ACTIVITIES, LEADING TO A BETTER UNDERSTANDING OF PRODUCT PROFITABILITY.

Q: HOW IS BUDGETING USED AS A TOOL FOR CONTROL IN MANAGERIAL ACCOUNTING?

A: BUDGETING SERVES AS A CRUCIAL CONTROL TOOL BY SETTING PERFORMANCE BENCHMARKS. ONCE A BUDGET IS ESTABLISHED, ACTUAL PERFORMANCE CAN BE MEASURED AGAINST IT. DEVIATIONS FROM THE BUDGET (VARIANCES) SIGNAL POTENTIAL PROBLEMS OR OPPORTUNITIES. MANAGERS CAN THEN INVESTIGATE THESE VARIANCES, DETERMINE THEIR CAUSES, AND IMPLEMENT CORRECTIVE ACTIONS TO BRING PERFORMANCE BACK IN LINE WITH PLANNED OBJECTIVES. THIS ONGOING COMPARISON AND ADJUSTMENT PROCESS HELPS MAINTAIN FOCUS ON ORGANIZATIONAL GOALS AND OPERATIONAL EFFICIENCY.

Q: WHAT ROLE DOES MANAGERIAL ACCOUNTING PLAY IN STRATEGIC PLANNING?

A: MANAGERIAL ACCOUNTING PLAYS A VITAL ROLE IN STRATEGIC PLANNING BY PROVIDING THE DATA AND ANALYSIS NEEDED TO FORMULATE AND EVALUATE STRATEGIC OPTIONS. IT HELPS IN ASSESSING THE FINANCIAL FEASIBILITY OF DIFFERENT STRATEGIES, FORECASTING THE IMPACT OF STRATEGIC INITIATIVES ON PROFITABILITY AND CASH FLOW, AND IDENTIFYING THE MOST COST-EFFECTIVE WAYS TO ACHIEVE LONG-TERM GOALS. CONCEPTS LIKE STRATEGIC COST MANAGEMENT AND VALUE CHAIN ANALYSIS, WHICH ARE INTEGRAL TO MANAGERIAL ACCOUNTING, DIRECTLY SUPPORT STRATEGIC DECISION-MAKING.

Core Concepts Managerial Accounting

Core Concepts Managerial Accounting

Related Articles

- [core algorithms for data analysis careers](#)
- [core investigative journalism](#)
- [core laws of physics in waves](#)

[Back to Home](#)